LONDON

TUNNELS

The London Tunnels

18. BREEAM Pre-Assessment Report

PROJECT NO. 70106185
REF NO. TLT-WSP-XX-XX-RP-BE-000001

30 November 2023

The London Tunnels PLC

TLT - THE LONDON TUNNELS

BREEAM Pre-assessment Report

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EXECUTIVE SUMMARY

WSP has been appointed in its capacity as Licensed BREEAM Assessors and Advisory Professionals (AP) to undertake an initial BREEAM evaluation for The London Tunnels (TLT) project. This report provides an overview to BREEAM Refurbishment and Fit Out 2014 Bespoke, highlights opportunities to embed sustainability principals from the outset of the project and the current BREEAM strategy and scoring.

The project under assessment comprises:

Project Name	The London Tunnels
Location	38-39 Furnival Street and 40-41 Furnival Street, EC4A 1JQ & 31-33 High Holborn WC1V 6AX
BREEAM Assessment Scheme	BREEAM Non-Domestic Refurbishment and Fit Out 2014 Bespoke
Assessment Type	NDRFO Bespoke, Parts 1-4
Target Rating	BREEAM 'high-score Very Good'
Stage of Assessment	Pre-Assessment (RIBA Stage 2)

The purpose of this report is to demonstrate:

- The agreed route for the achievement of a formal BREEAM 'Very Good' certification at the pre-assessment stage (Strategy).
- The credits/performance requirements which the team have agreed to target and implement.
- The actions required by the project team to satisfy the BREEAM evidential requirements, including those with early RIBA stage requirements.

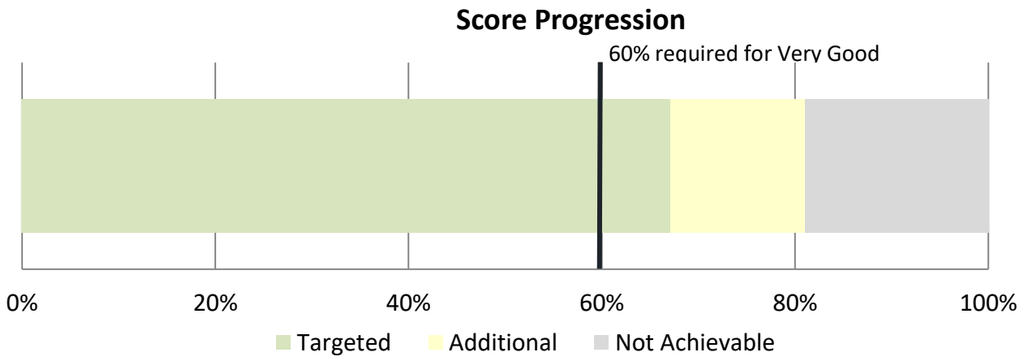
SCORING

Based on discussions and agreements with the Design Team and client, the following scoring scenarios are predicted:

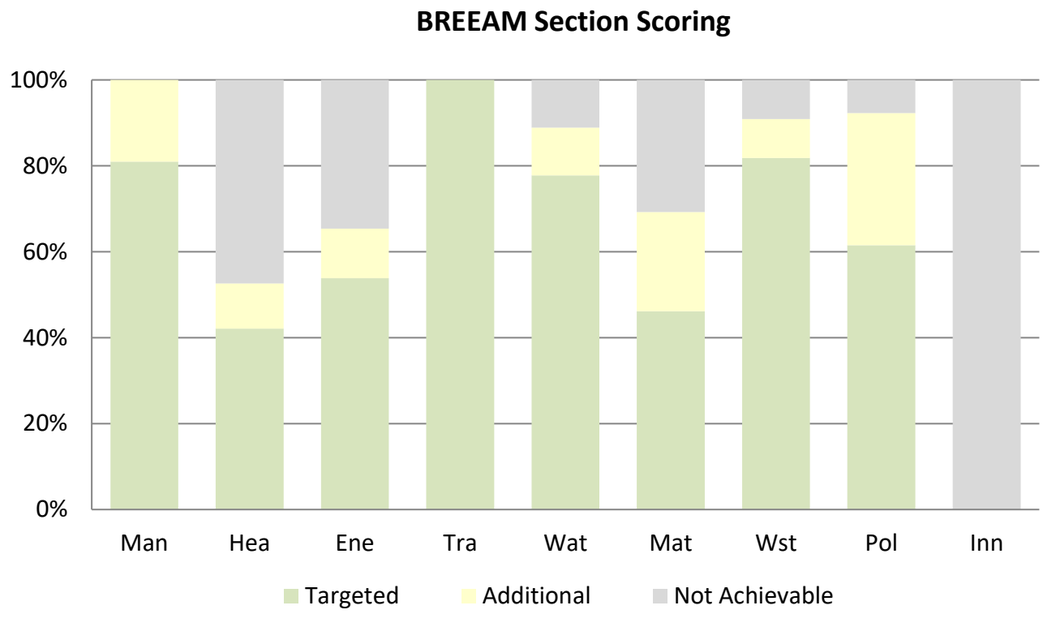
BESPOKE – FULLY FITTED

Scoring Scenario		BREEAM Score (Cumulative)*	Indicative BREEAM Rating
BREEAM NON-DOMESTIC REFURBISHMENT AND FIT OUT 2014 Parts 1-4	**Targeted**	67.06%	Very Good
	Potential	81.00%	Excellent
*Score as produced by BRE's BREEAM scoring and reporting tool			

For full details please refer to the main assessment trackers in Appendix A.



Graphical representation of progress to a required score of 60% (i.e. recommended score with 5% buffer for BREEAM 'Very Good') for the Proposed Development.



Graphical representation of the credits associated with each environmental section.

Targeted Scoring Scenario

This is based on the items agreed as being targeted by the design team.

We recommend that at least 5% is targeted above the required rating, i.e. 60% for ‘Very Good’, or 75% for ‘Excellent’. This is to safeguard for missed credits during completion of the design and construction of the asset.

Additional Scoring Scenario

Further to those items noted as targeted, additional credits were identified, which upon further investigation from the design team or updates to the design could result in an additional (higher) score and rating.

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PROJECT BACKGROUND

TLT involves change of use of existing deep level tunnels (Sui Generis) to visitor and cultural attraction, including bar (F1); demolition and reconstruction of existing building at 38-39 Furnival Street*; redevelopment of 40-41 Furnival Street*, for the principle visitor attraction pedestrian entrance at ground floor, with retail at first and second floor levels and ancillary offices at third and fourth levels and excavation of additional basement levels; creation of new, pedestrian entrance at 31-33 High Holborn*, to provide secondary visitor attraction entrance (including principle bar entrance); provision of ancillary cycle parking, substation, servicing and plant, and other associated works.

As confirmed by BRE, this Proposed Development will be assessed under BREEAM Refurbishment and Fit Out 2014 Bespoke Scheme due to its special nature, which a bespoke assessment criteria and scoring spreadsheet for this project will be developed.

This project is designed to achieve a rating of BREEAM ‘high-score Very Good’.

* The buildings 38-39 Furnival Street and 40-41 Furnival Street EC4A 1JQ shall hereby be referred to as ‘Furnival Street’, while the buildings 31-33 High Holborn WC1V 6AX shall hereby be referred to as ‘Fulwood Place’ through this report.

PRE-ASSESSMENT REPORT PURPOSE

The report constitutes the BREEAM pre-assessment report for the Proposed TLT Development.

The content is based on information provided by the Design Team during various workshops and DTMs held in September and October 2023, subsequent conference calls and information collated from the individual project team members.

The purpose of this report is to:

- Demonstrate the strategy (targeted BREEAM credits and overall score) agreed with the project team to achieve the desired BREEAM high-score Very Good;
- Represent status of early-stage credits following the design team providing necessary evidence;
- Outline the actions required by the project team to satisfy BREEAM evidence requirements.

To summarise these outcomes, this report includes the following:

- An appraisal of the current Development Proposals against the BREEAM criteria;
- Identification of the mandatory credits which are essential to be included within the Development to achieve the desired rating;
- Consideration of potential credits that could be targeted subject to additional consideration, investigation and possibly additional costs.

This report has been prepared by qualified BREEAM Assessors at WSP who are licensed by the BRE to undertake assessments using the NDRFO 2014 Schemes.

To demonstrate compliance with the targeted credits as part of the formal design stage and construction stage BREEAM assessments, documentary evidence demonstrating performance is required to be presented to the BREEAM Assessor by the project team. It is therefore important for all project team members to ensure that commitments made at this early stage are carried through the design process and are implemented at construction. Cost implications of the assumptions made in this report have not been evaluated as part of this study.

The criteria for achieving a BREEAM certificate can be challenging if overlooked during the design evolution process. The team can access the full Scheme documents (technical manual), which are freely available, at:

https://www.breeam.com/ndrefurb2014manual/.

ASSESSMENT STRATEGY

The stages of a BREEAM assessment require as a minimum a Construction Stage assessment in order to receive a final BREEAM certificate. It is strongly recommended that a three-stage assessment process is undertaken to maximise the efficiency of achieving the required rating.

- Pre-Assessment
- Design Stage Assessment
- Construction Stage Assessment

The BREEAM: Project Lifecycle diagram shows the full process for a BREEAM assessment.

This report represents the initial stages of the BREEAM Assessment (a Pre-Assessment review) whereby the team have identified and agreed a set of BREEAM performance measures to ensure the overall achievement of the required BREEAM rating is met.

PROPOSED BREEAM PROGRAMME

The provisional BREEAM Programme needs to be agreed with the Project Team. The Project Team should confirm the estimated dates against which the following actions can be programmed to the BREEAM Assessor/AP:

Item	Ideal RIBA Stage	Status	Ownership
BREEAM Pre-Assessment Strategy Workshop	1 / 2	Carried out on 29th Sep and 5th Oct 2023	Assessor with input from the Design Team and BREEAM AP
Bespoke Assessment Development Meeting	2	Carried out on 7th Nov 2023	BRE, Assessor and Design Team
Design Stage Assessment Kick-Off Meeting	3	TBC	Assessor/ Design Team
Design Stage Action and Guidance Report	3	TBC	Assessor
Design Team – Production of Information	3 / 4	TBC	Design Team
Design Stage Assessment – Recommendation for Certification	4	TBC	Design Team / Assessor
Design Stage (Interim Certification) 7-9 Weeks for QA Response	4	TBC	BRE

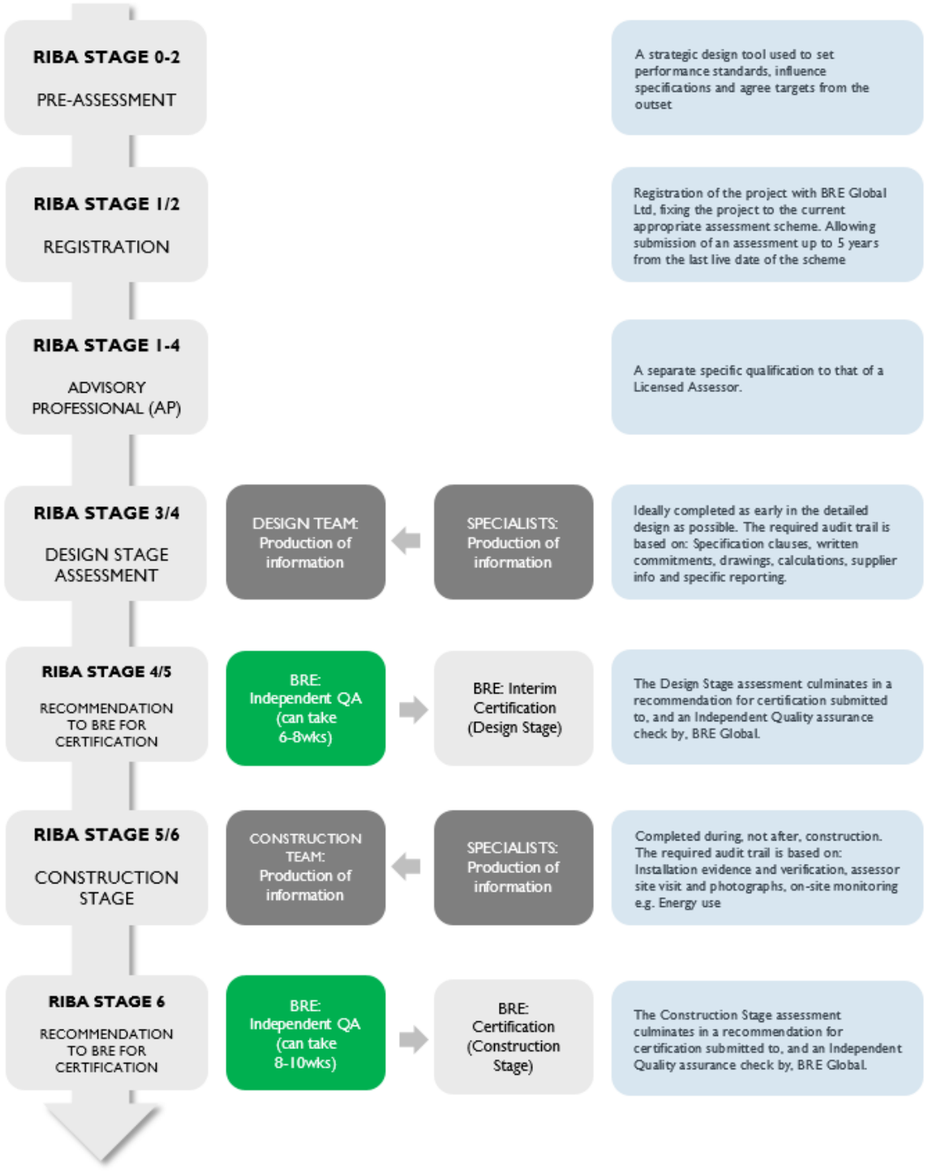

Figure 1 - REEAM Project Lifecycle

ROLES AND RESPONSIBILITIES

The BREEAM Assessor and BREEAM Accredited Professional (AP) must act in accordance with their "BREEAM License Agreement" with BRE Global Ltd; the owner, managing body and certification authority for all BREEAM Schemes.

The design/ construction team will be required to demonstrate "achievement" of the various BREEAM performance requirements through the presentation of documentary evidence as listed by BRE and conveyed by the Licensed Assessor. This audit material often requires specific responses/ reporting to demonstrate compliance.

During the early stages of assessment, ownership for the various actions and dates for submission will be agreed, which if not met may require a variation to our agreed scope of works.

In accordance with the BREEAM License the Assessor/BREEAM AP must maintain a position of non-conflict of interest. This means that whilst they can provide guidance to the various design/ construction team members, they cannot be responsible for the delivery of any part of the required audit trail.

Note: It is acceptable that the Assessor/ AP is part of the same organisation as a member or members of the design team who are responsible for information production).

BACKGROUND TO BREEAM

BREEAM is a market-focused tool aimed at encouraging significant improvements in the performance of buildings through quantification of a building's full life environmental impacts.

The BREEAM score provides a means of recognising a projects sustainability benefits and so benchmarking it against other buildings. Key benefits of using the methodology include:

- Maximising opportunities to enhance the building's performance during the planning, design and construction phases of new build, refurbishment and fit out projects.
- Specifying environmental requirements during procurement and management of all types of developments.
- Use of an independently verifiable measurement tool for forming part of Environmental Management Systems.
- Providing an independently verifiable sustainability label for marketing and promotional purposes.

BREEAM SCORING AND RATING

BREEAM ratings are divided into six levels as shown in Table 1. The associated percentage score is achieved based on meeting the requirements of a number of credits that correspond to meet or exceed the rating benchmarks.

Table 1 - BREEAM Rating Benchmarks

BREEAM Rating	Percentage Required
UNCLASSIFIED	<30%
PASS	≥30%
GOOD	≥45%
VERY GOOD	≥55%
EXCELLENT	≥70%
OUTSTANDING	≥85%

BREEAM CATEGORY WEIGHTINGS

The categories within BREEAM are weighted according to relative importance within the country of assessment through a weighting system derived by BRE Global as shown in Table 2. Within each category there are a different number of credits, therefore, individual credits carry specific percentage weightings, as a percentage of the overall total.

The number of credits available is based on the scoping of appropriate assessment criteria for the project type, location and functions. WSP's assessment tracker (found in Appendix A) shows the percentage contribution of each targeted credit to highlight that a credit in one section may not carry the same contribution to the score as a credit in another, due to the category weightings.

BREEAM incorporates a mechanism whereby Schemes achieving exemplar performance in a particular area or demonstrating innovation can achieve an additional 1% for each credit up to a maximum of 10. The innovation section is shown at the end of the main assessment table.

Table 2 - Section Weightings

Category	Section Weighting NDRFO 2014
Management	13.24%
Health & Wellbeing	14.29%
Energy	16.52%
Transport	8.09%
Water	6.62%
Materials	13.79%
Waste	7.59%
Land Use and Ecology	8.83%
Pollution	11.03%
Innovation	10.0%

MANDATORY REQUIREMENTS

To achieve a BREEAM rating, the minimum percentage score (associated with credits achieved) must be met plus mandatory standards for specific requirements applicable to that rating level must be complied with. These are shown in Table 3.

Table 3 - Mandatory Credits (NDRFO 2014)

Credit Ref.	Credit	BREEAM Rating/ Minimum Number of Credits				
		Pass	Good	Very Good	Excellent	Outstanding
Man 03	Responsible Construction Practices	-	-	-	One Credit (CCS)	Two Credits (CCS)
Man 04	Commissioning and Handover	-	-	-	Criterion 10 (Building User Guide)	Criterion 10 (Building User Guide)
Man 05	Aftercare	-	-	-	One credit (Seasonal commissioning)	One credit (Seasonal commissioning)
Ene 01	Reduction of Energy Use and Carbon Emissions	-	-	-	Six Credits	Ten Credits
Ene 02	Energy Monitoring	-	-	One Credit (first credit)	One Credit (first credit)	One Credit (first credit)
Wat 01	Water Consumption	-	One Credit	One Credit	One Credit	Two Credits
Wat 02	Water Monitoring	-	Criterion 1 Only (mains water meter)	Criterion 1 Only (mains water meter)	Criterion 1 Only (mains water meter)	Criterion 1 Only (mains water meter)
Mat 03	Responsible Sourcing of Materials	Criterion 1 Only (Legal Timber)	Criterion 1 Only (Legal Timber)	Criterion 1 Only (Legal Timber)	Criterion 1 Only (Legal Timber)	Criterion 1 Only (Legal Timber)
Wst 01	Construction Waste Management	-	-	-	-	One Credit
Wst 03	Operational Waste	-	-	-	One Credit	One Credit

REQUIREMENTS WITH SPECIFIC ACTION TIMINGS

When targeting some credits, the requirements can include delivery of work ahead of completion of a specific project stage (RIBA Stage) to ensure opportunities for positive sustainability outcomes are not missed by the project team. These are shown in Table 4.

Table 4 - Timing of Assessment (key credits)

Credit Ref.	Credit	RIBA Plan of Work				
		Preparation and Brief (1)	Concept Design (2)	Developed Design (3)	Technical Design (4)	Construction and Handover (5/6)
Man 01	Stakeholder Consultation			Identify and Define Project Delivery Stakeholders		
Man 01	Stakeholder Consultation (Interested Parties)		Consultation		Feedback Provided	
Man 01	Sustainability Champion (Design)		Appointment (BREEAM AP) to Maximise Project Performance			
Man 02	Life Cycle Cost and Service Life Planning		Elemental Life Cycle Cost (LCC)		Component Level LCC Appraisal	
Hea 06	Security of Site & Building		Security Needs Assessment			
Ene 04	Passive Design Analysis		Passive Design Analysis and Thermal Model			
Ene 04	Low or Zero Carbon Technologies		LZC Appraisal			
Ene 05	Energy Efficient Cold Storage		Cold Storage Strategy			
Tra 05	Travel Plan	Travel Plan				
Mat 01 (Opt 2)	Environmental impact of materials				Elemental LCA assessment	
Mat 06	Materials Efficiency	Whole Team Engagement	Whole Team Engagement	Whole Team Engagement	Whole Team Engagement	Whole Team Engagement

Credit Ref.	Credit	RIBA Plan of Work				
		Preparation and Brief (1)	Concept Design (2)	Developed Design (3)	Technical Design (4)	Construction and Handover (5/6)
Wst 01	Construction Waste Management		Pre-Refurbishment Audit			
Wst 05	Structural and Fabric Resilience		Climate Change Adaptation Strategy		Update on Climate Change Adaptation Strategy	
Wst 06	Functional Adaptability		Adaptability Study		Adaptation Measures Adopted	

ADDITIONAL CREDITS

Further to those items noted as targeted, the additional credits in the following section were identified as potential additional.

Table 5 – Identified Additional Credits

Item	BREEAM Issue	Potential Credits	Contribution to Total Score	Brief Action / Summary	Production Team Owner
1	**Man 02** Life cycle cost and service life planning	Three Credits	1.89%	Cost consultant has submitted a quotation for conducting the LCC works at stage 2. Client to confirm the appointment.	Cost Consultant Client
2	**Man 05** Post occupancy evaluation	One Credit	0.63%	Additional appointment of 3rd party is required to carry out the POE. To be reviewed in next stage.	Client
3	**Hea 02** Indoor Air Quality: *Ventilation*	One Credit	0.75%	Design team have confirmed that ventilation strategy will be reviewed against requirements in next stage as the design develops due to extract and intake locations.	MEP Engineer
4	**Hea 02** Indoor Air Quality: *Emissions from Construction Products*	One Credit	0.75%	Design team have confirmed that requirements will be reviewed and implemented into the design, where applicable. One credit has been advised to be targeted until product	Architect Client PM
				information is available in RIBA Stage 4.	
5	**Ene 01** Reduction of energy use and carbon emissions	Two Credits	1.28%	Initial studies estimates that 4 credits can be achieved. To be reviewed in next stage when more MEP design details are available.	MEP Engineer
6	**Ene 04** Free cooling	One Credit	0.64%	Free cooling study is carried out, however the credit is subjected to reduction percentage of the cooling energy demand.	MEP Engineer
7	**Wat 01** Water consumption	One Credit	0.74%	Design team have confirmed that there will be a baseline improvement of around 40%. This achieves 3 credits. To achieve a further additional credit, a baseline improvement of at least 50% is required.	MEP Engineer Architect
8	**Mat 01** LCA (Option 2)	One Credit	1.06%	Depends on percentage of retained in situ and percentage of materials specified with robust environmental performance information. To be reviewed at stage 4.	MEP Engineer Structural Engineer Architect
9	**Mat 03** Responsible Sourcing of Materials: *Measuring Responsible Sourcing*	One Credit	1.07%	First credit (targeted) where >18% RSM points are achieved. Second credit (potential) where >36% RSM points are achieved. Design team and contractor to ensure as much materials as possible is procured from responsible resourcing. This is to be implemented into the design, where applicable. Design team have confirmed that this is to be included as part of the employer's requirements for the contractor to deliver.	Client PM Contractor

Item	BREEAM Issue	Potential Credits	Contribution to Total Score	Brief Action / Summary	Production Team Owner
				This credit is directly linked to the CES. The WLCA process through specifying low carbon and more sustainable materials.	
10	**Mat 04** Insulation	One Credit	1.06%	Design team have confirmed that it is likely that proposed insulation is suitable and BREEAM compliant - to be confirmed and reviewed.	Structural Engineer Architect
11	**Wst 01** Construction Waste Management: *Construction Resource Efficiency*	One Credit	0.69%	Two credits are currently targeted. An additional credit can be achieved when < 4.5m³ per 100m² non-hazardous construction. Design team have confirmed that this is to be included as part of the employer's requirements for the contractor to deliver. This credit is directly linked to the CES. GLA CES Targets: 95% of excavation waste should have a beneficial use. 95% of demolition waste and construction waste should be diverted from landfill.	Client PM Contractor
12	**Pol 01** Impact of refrigerants	One Credit	0.85%	First credit (targeted) where the systems using refrigerants have DELC CO2e of ≤ 1000 kgCO2e/kW cooling/heating capacity Second credit (potential) where DELC CO2e of ≤ 100 kgCO2e/kW or GWP ≤ 10 Second credit to be confirmed in next stage.	MEP Engineer
13	**Pol 03** Flood and Surface Water Management: *Minimising Water Course Pollution*	Three Credits	2.55%	Subject to Drainage Consultant's calculation in stage 3 when more details are available.	Drainage Consultant

REPORT FORMAT

The tables in appendix A shows the BREEAM criteria against which the buildings are being assessed (bespoke RFO). The credits available for each issue are shown along with a calculated overall percentage score and rating. The scoring has also been undertaken on the BREEAM Non-Domestic RFO 2014 assessment Scheme tools.

This allows for simple analysis of the effect of achieving more or removing any given credit. A summary of the actions has been shown, however the full requirements for the BREEAM assessment can be viewed within the assessment manual or can be provided upon request.

The tables provide high level discussion of performance requirements and agreements. During the next stage of formal assessment, explicit ownership, actions and timing for production will be shown based on agreement with the team.

DISCLAIMER

WSP has undertaken the following BREEAM report, with input and agreement from the Design Team. All information provided has been accepted in good faith as being accurate and representative of the proposed Scheme at the time of review.

The credits and credit requirements are based on the BREEAM NDRFO 2014 methodology with 'best estimate' for the bespoke criteria.

The assessor (for him/herself and as an agent for his/her staff) shall not be held liable whether in Contract or in Tort or otherwise for any loss or damage sustained as a result of using or relying on the information contained in this report or the final certificate from BRE that it is based on.

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Appendix A

BREEAM CREDIT TRACKER

The London Tunnels Pre-Assessment

This BREEAM credit tracker has been developed following an initial meeting with the project team on the 29 Sep & 02 Oct 2023. The BREEAM UK Non Domestic Refurbishment and Fit-Out scheme document must be referred to for the criteria details.
During the design evolution, the project team has responsibility to understand the details of the criteria requirements and consider them in the context of the proposed design.

Outstanding	≥ 85%
Excellent	≥ 70%
Very good	≥ 55%
Good	≥ 45%
Pass	≥ 30%
Unclassified	< 30%

											67.06%	81.00%					
BREEAM Issue ID	BREEAM Issue Title	BREEAM Credit Title	BREEAM Criteria	Part Applicability				Credits Available	% Worth (in total for each BREEAM issue)	Mandatory Requirements		Design Stage Scoring		Commentary	Actions	Indicative Timeframe	Indicative Responsibility
				Part 1	Part 2	Part 3	Part 4			Very Good	Excellent	Targeted	Additional				
Management																	
Man 01	**Project brief and design**	Stakeholder consultation (project delivery)	The design team develop a sustainability brief prior to during RIBA Stage 1 to set out the following: (a) Client requirements (b) Sustainability objectives and targets including target BREEAM rating (c) Timescales and budget; (d) List of consultees and professional appointments required (e) Project constraints Prior to completion of the RIBA Stage 2, the project delivery stakeholders meet to identify and define their roles, responsibilities and contributions for each of the key phases of project; considering the following: (a) End user requirements (b) Aims of the design and design strategy (c) Particular installation and construction requirements/limitations (d) Design and construction risk assessments e.g. CDM, legionella risk assessment (e) Legislative requirements e.g. building control notification, heritage requirements (f) Procurement and supply chain (g) Identifying and measuring project success in line with project brief objectives (h) Occupiers' budget and technical expertise in maintaining any proposed systems (i) Maintainability and adaptability of the proposals (j) Requirements for the production of project and end user documentation (k) Requirements for commissioning, training and aftercare support. The project team demonstrate how the project delivery stakeholder contributions and the outcomes of the consultation process influenced the project at each stage.	✓	✓	✓	✓	1	0.63%			1		Action in stage 2: Planning Consultant / PM to provide design brief, meeting minutes and consultation plan / project execution plan. Assessor to provide template matrix completion by WSP Design Manager. **1 credit targeted.**	1) Consultation plan setting out the process and scope of the consultation. 2) Meeting minutes to demonstrate when collaborations began, what was discussed, the defining of roles and responsibilities for each stage, aims, requirements and the outcomes of this process.	RIBA Stage 2	PM / WSP Design Manager
		Stakeholder consultation (third party)	The design team have covered the minimum consultation content to relevant third party stakeholders prior the completion of RIBA Stage 2. Consultation feedback is given to, and received by all relevant parties by the end of RIBA Stage 4. The project must demonstrate how the stakeholder contributions and outcomes of the consultation exercise have influenced or changed the Initial Project Brief and Concept Design. The consultation exercise used a method carried out by an independent party.	✓	✓	✓	✓	1	0.63%			1		The design team confirmed that the third party stakeholder consultation has a touch for the minimum content listed out in BREEAM. Public consultation will be carried out, BREEAM AP to check with WSP Design Manager and Planning Consultant for any records available. Action in stage 2: Client to provide consultation report(s) setting out the process, scope and outcomes of the consultation; documentation demonstrating how consultation influenced design brief; and evidence of third party stakeholders. **1 credit targeted.**	1) Consultation plan and reports setting out the process, scope and outcomes of the consultation, as well as the timings of this process. 2) Documentation demonstrating the parties consulted, the topics covered, a summary of the views expressed, how these influenced the design brief, and the feedback given to consultees.	RIBA Stage 2	PM / Planning Consultant / WSP Design Manager
		Sustainability champion (design)	A Sustainability Champion has been appointed at RIBA Stage 1 to facilitate the setting and achievement of BREEAM performance targets. The defined BREEAM performance targets between the client and design/project team no later than RIBA Stage 2. The agreed BREEAM performance targets must be demonstrably achieved via the BREEAM assessor's design stage assessment report.	✓	✓	✓	✓	1	0.63%			1		WSP BREEAM AP have been appointed from RIBA Stages 1-2. BREEAM AP to be appointed from RIBA Stages 3-6. BREEAM AP Note are available in stage 1 & 2. **2 credits targeted.**	1) Appointment letter for the Sustainability Champion defining the scope of their role and responsibilities 2) Meeting minutes confirming the Sustainability Champion attended key design team meetings throughout the design process and the BREEAM requirements and targets discussed. 3) Status/monitoring reports from the Sustainability Champion at key stages.	RIBA Stage 1/2	BREEAM AP
		Sustainability champion (monitoring progress)	Sustainability Champion (design) criteria has been achieved. A Sustainability Champion is appointed to monitor progress against the agreed BREEAM performance targets throughout the design process and formally report progress to the client and design team. The Sustainability Champion must attend key project/design team meetings and report throughout each RIBA stage.	✓	✓	✓	✓	1	0.63%			1			1) Appointment letter for the Sustainability Champion defining the scope of their role and responsibilities 2) Meeting minutes confirming the Sustainability Champion attended key design team meetings throughout the design process and the BREEAM requirements and targets discussed. 3) Status/monitoring reports from the Sustainability Champion at key stages.	RIBA Stage 4	BREEAM AP

										67.06%	81.00%						
BREEAM Issue ID	BREEAM Issue Title	BREEAM Credit Title	BREEAM Criteria	Part Applicability				Credits Available	% Worth (in total for each BREEAM issue)	Mandatory Requirements		Design Stage Scoring		Commentary	Actions	Indicative Timeframe	Indicative Responsibility
				Part 1	Part 2	Part 3	Part 4			Very Good	Excellent	Targeted	Additional				
Man 02	Life cycle cost and service life planning	Elemental life cycle cost (LCC)	An outline, entire asset elemental life cycle cost (LCC) plan has been carried out at RIBA Stage 2 in line with 'Standardised method of life cycle costing for construction procurement' PD 156865:20081. The elemental LCC plan: a) An outline LCC plan has been undertaken for the project based on the building's basic structure and envelope, appraising a range of options and based on the life expectancy of the refurbished building, e.g. 20, 30, 50+ years. b) The servicing strategy for the project outlining services component over a 15 -year period, in the form of an 'elemental LCC Plan'. c) A fit-out strategy is developed outlining fit-out options over a 10-year period.	✓	✓	✓	✓	2	1.26%				2	Not within the scope of a Cost Consultant's works. AECOM to provide a quote. BREEAM compliant Elemental LCC report to be completed and provided for RIBA Stage 2. Action in stage 2: BREEAM compliant Elemental LCC report to be completed and provided for RIBA Stage 2. **2 credits considered additional potential.**	1) A copy of a compliant Elemental LCC report with supporting documentation of analysis of alternative options and the benefits of the chosen option; 2) The fabric and servicing strategy	RIBA Stage 2	Cost Consultant Client
		Component level LCC Plan	A Component level LCC plan has been developed by the end of RIBA Stage 4 in line with PD 156865:2008 and includes the following component types: **Part 1** assessments, including components within scope of works: Envelope, e.g. cladding, windows, and/or roofing **Part 2 & 3** assessments including newly specified local and core services: Newly specified local and/or core service equipment, e.g. boiler, air-conditioning, air handling unit, and/or controls etc. **Parts 1 – 4**, where finishes are within scope of works: Finishes, e.g. walls, partitions, floors and/or ceilings etc. Where **external spaces** are within scope of works: External spaces, e.g. alternative hard landscaping, boundary protection.	✓	✓	✓	✓	1	0.63%				1	BREEAM compliant Component LCC report to be completed and provided for RIBA Stage 4. Not commonly within the scope of a Cost Consultant's works. **1 credit considered additional potential.**	1) A copy of the compliant Component level LCC plan with supporting documentation of analysis. 2) Design drawings / specification of the inclusion of the recommended options identified by the LCC reports. 3) A copy of the maintenance strategy or a formal commitment to produce one in compliance with the requirements and be informed by the LCC.	RIBA Stage 4	Cost Consultant Client
		Capital cost reporting	Report the capital cost for the refurbishment/fit-out works in pounds per square metre (£k/m2)	✓	✓	✓	✓	1	0.63%			1		It is anticipated that this requirement will be met. Details of capital cost are to be provided in RIBA Stage 4. **1 credit targeted.**	1) Report with the capital cost for the building in pounds per square metre	RIBA Stage 4	Cost Consultant Client
Man 03	Responsible construction practices	Pre-requisite	All timber and timber-based products used on the project is 'Legally harvested and traded timber'	✓	✓	✓	✓		0.00%			Yes		It is anticipated that this requirement will be met. This is to be included as part of the employer's requirements for the contractor to deliver. **Pre-requisite targeted. 6 credits targeted.**	1) A formal letter of commitment or contractual requirements document confirming the actions that will be undertaken as part of site works.	RIBA Stage 4	Contractor
		Environmental management	The principal contractor operates an environmental management system (EMS) covering their main operations. i.e. ISO 14001/EMAS or Compliance with BS8555:2003. The principal contractor implements best practice pollution prevention policies and procedures on-site in accordance with Pollution Prevention Guidelines, Working at construction and demolition-sites: PPG6	✓	✓	✓	✓	1	0.63%			1				RIBA Stage 4	Contractor
		Sustainability Champion (construction)	A Sustainability Champion is appointed to monitor the project to ensure ongoing compliance with the relevant sustainability performance/process criteria, and therefore BREEAM targets, during RIBA Stages 5 and 6. The principal contractors contract includes BREEAM performance targets The BREEAM assessor's final post construction stage assessment report must demonstrate compliance with BREEAM-related performance targets	✓	✓	✓	✓	1	0.63%			1				RIBA Stage 4	Contractor
		Considerate construction	Using the Considerate Constructors Scheme (CCS) the principal contractor must achieve scheme certification and a CCS score as follows: 1. One credit: 9 points per section and 27 overall 2. Two credits: 11 points per section and 35 overall 3. Exemplary credit: 13 points per section and 39 overall	✓	✓	✓	✓	2	1.26%		1	2				RIBA Stage 4	Contractor
		Utility consumption	Responsibility has been assigned to an individuals for monitoring, recording and reporting energy use and water consumption resulting from all on-site refurbishment or fit-out processes. <u>Energy consumption</u> - Monitor and record data of the site energy consumption in kWh (and where relevant, litres of fuel used) as a result of the use of construction plant, equipment (mobile and fixed) and site accommodation (as relevant to the project type). - Report the total carbon dioxide emissions (total kgCO2/project value) from the construction process <u>Water consumption</u> - Monitor and record data on principal constructor's and subcontractors' potable water consumption (m3) arising from the use of construction plant, equipment (mobile and fixed) and site accommodation - Using the collated data report the total net water consumption (m3), i.e. consumption minus any recycled water use from the construction process	✓	✓	✓	✓	1	0.63%			1				RIBA Stage 4	Contractor
		Transport of construction materials and waste	Monitor and record data on transport movements and impacts resulting from delivery of the majority of materials to site and demolition or strip-out waste from site. As a minimum this must cover: a. Transport of materials from the factory gate to the building site, including any transport, intermediate storage and distribution. b. Scope of this monitoring must cover the following as a minimum: - Materials used for core services - Where within scope, ground works and landscaping materials c. Transport of construction waste from the gate to waste disposal processing or recovery centre. Scope must cover the construction waste groups outlined in the project's waste management plan. Using the collated data, report separately for materials and waste, the total fuel consumption (litres) and/or total carbon dioxide emissions (kgCO2 eq), plus total distance travelled (km)	✓	✓	✓	✓	1	0.63%			1				RIBA Stage 4	Contractor

Pass	≥ 30%
Unclassified	< 30%

													67.06%	81.00%				
				Part Applicability						Mandatory Requirements		Design Stage Scoring						
BREEAM Issue ID	BREEAM Issue Title	BREEAM Credit Title	BREEAM Criteria	Part 1	Part 2	Part 3	Part 4	Credits Available	% Worth (in total for each BREEAM issue)	Very Good	Excellent	Targeted	Additional	Commentary	Actions	Indicative Timeframe	Indicative Responsibility
Man 04	Commissioning and handover	Commissioning and testing schedule and responsibilities	There is a schedule of commissioning and testing that identifies appropriate commissioning required for the scope of works that includes a suitable timescale for commissioning and re-commissioning of all relevant works carried out. Commissioning should be carried out where changes are being made to buildings services, building services control systems and changes to the building fabric which will affect building performance. All commissioning activities are carried out in accordance with current Building Regulations, BSRIA and CIBSE guidelines and/or other appropriate standards, where applicable. An appropriate project team member(s) is appointed to monitor and programme pre-commissioning, commissioning, testing and, where necessary, re-commissioning activities on behalf of the client. The principal contractor accounts for the commissioning and testing programme, responsibilities and criteria within the main programme of works.	✓	✓	✓	✓	1	0.63%			1		It is anticipated that this requirement will be met and to be part of MEP specification. Commissioning manager / specialist will be appointed. **1 credit targeted.**	1) Specification or written confirmation confirming commissioning standards, responsibilities and schedule.	RIBA Stage 4	MEP Engineer
		Commissioning building services	Commissioning and testing schedule and responsibilities credit is achieved. For projects where work is being undertaken to upgrade, renovate or install new building services and systems. (a) For complex building services and systems, a specialist commissioning manager is appointed during the design stage with responsibility for: (i) Undertaking design reviews and giving advice on suitability for ease of commissioning; (ii) Providing commissioning management input to construction programming and during installation stages; (iii) Management of commissioning, performance testing and handover/post handover stages;		✓	✓	✓	1	0.63%			1		It is anticipated that this requirement will be met and to be part of MEP specification. Commissioning manager / specialist will be appointed. **1 credit targeted.**	1) Specification or written confirmation confirming commissioning standards, responsibilities and schedule.	RIBA Stage 4	MEP Engineer
		Testing and inspecting building fabric	If the fabric of the building has be upgraded the integrity of the building fabric, including continuity of insulation, avoidance of thermal bridging and air leakage paths is quality assured through completion of a thermographic survey as well as airtightness testing and visual inspection. This will be undertaken by a Suitably Qualified Professional with any defects rectified prior to building handover and close out.	✓				1	0.63%			1		Credit requires a thermographer to be appointed during post construction to undertaken thermal imaging. Any defects would need to be remidiated. **1 credit targeted.**	1) A formal letter of commitment or specification document confirming the actions that will be undertaken in the performance testing of the building fabric. 2) Project programme confirming inclusion of thermographic survey and air leakage testing.	RIBA Stage 4	Contractor
		Handover	A Building User Guide (BUG) is developed prior to handover for distribution to the building occupiers and premises managers. A training schedule is prepared for building occupiers/premises managers, timed appropriately around handover and proposed occupation plans, which includes the following content as a minimum: - The design intent of refurbishment/fit-out works - The available aftercare provision and aftercare team main contact(s), including any scheduled seasonal commissioning and post occupancy evaluation - Introduction to, and demonstration of, installed systems and features, particularly BMS controls and their interfaces, - Introduction to the Building User Guide and other relevant building documentation. - Maintenance requirements, including any maintenance contracts and regimes in place.	✓	✓	✓	✓	1	0.63%		BUG	1		This is to be included as part of the employer's requirements for the contractor to deliver. **1 credit targeted.**	1) Specification or written confirmation confirming that a BREEAM compliant building user guide will be produced and handed over.	RIBA Stage 4	Client Contractor
Man 05	Aftercare	Aftercare support	There will be operational infrastructure and resources in place to provide aftercare support to the building occupiers, which meets the following as a minimum: a) A meeting programmed to occur between the aftercare team/individual and the building occupier/management to: i. Introduce the aftercare team or individual to the aftercare support available ii. Present key information about features of the refurbished building b) On-site facilities management training c) Initial aftercare support provision for at least the first month of building occupation d) Longer term aftercare support provision for occupants for at least the first 12 months from occupation There will be operational infrastructure and resources in place to co-ordinate the collection and monitoring of energy and water consumption data for a minimum of 12 months. If discrepancies between actual and predicted performance are identified, commitments are required to address the discrepancies.	✓	✓	✓	✓	1	0.63%			1		It is anticipated that aftercare support will be provided. **1 credit targeted.**	1) Specification or written confirmation confirming that a the provision of BREEAM compliant Aftercare will be provided.	RIBA Stage 4	Client Contractor
		Seasonal commissioning	Seasonal commissioning activities must be completed over a minimum 12-month period, once the building becomes substantially occupied. Complex systems - Specialist Commissioning Manager: i. Testing of all building services under full load conditions ii. Where applicable, testing should also be carried out during periods of extreme (high or low) occupancy. iii. Interviews with building occupants to identify problems or concerns regarding the effectiveness of the systems. iv. Re-commissioning of systems, and incorporating any revisions in operating procedures into the operations and maintenance (O&M) manuals.		✓	✓		1	0.63%		1	1		It is anticipated that seasonal commissioning support will be provided. **1 credit targeted.**	1) Specification or written confirmation confirming that a the provision of BREEAM compliant Seasonal commissioning will be provided.	RIBA Stage 4	Contractor
		Post occupancy evaluation	The client or building occupier makes a commitment to carry out a post occupancy evaluation (POE) exercise one year after initial building occupation. This is done to gain in-use performance feedback from building users to inform operational processes, including re-commissioning activities, and maintain or improve productivity, health, safety and comfort. The POE is carried out by an independent party and needs to cover: a) A review of the design intent and construction process b) Feedback from a wide range of building users including facilities management on the design and environmental conditions of the building covering c) Sustainability performance The client or building occupier makes a commitment to carry out the appropriate dissemination of information on the building's post-occupancy performance.	✓	✓	✓	✓	1	0.63%				1	Additional appointment required to carry out the POE. To be reviewed in next stage. BREEAM AP to provide more inforamtion on this issue. **1 credit considered additional potential.**	1) Specification or written confirmation confirming that a the provision of BREEAM compliant post-occupancy evaluation will be provided.	RIBA Stage 4	Client Contractor

Pass	≥ 30%
Unclassified	< 30%

Pass	≥ 30%
Unclassified	< 30%

												67.06%	81.00%				
BREEAM Issue ID	BREEAM Issue Title	BREEAM Credit Title	BREEAM Criteria	Part Applicability				Credits Available	% Worth (in total for each BREEAM issue)	Mandatory Requirements		Design Stage Scoring		Commentary	Actions	Indicative Timeframe	Indicative Responsibility
				Part 1	Part 2	Part 3	Part 4			Very Good	Excellent	Targeted	Additional				
Health and Wellbeing																	
Hea 01	**Visual comfort**	Glare control	1. The potential for disabling glare has been designed out of all relevant building areas using a glare control strategy, either through building form and layout and/or building design measures (see compliance note CN7). 2.The glare control strategy avoids increasing lighting energy consumption, by ensuring that: (a) The glare control system is designed to maximise daylight levels under all conditions while avoiding disabling glare in the workplace or other sensitive areas. The system should not inhibit daylight from entering the space under cloudy conditions, or when sunlight is not on the façade: AND (b) The use or location of shading does not conflict with the operation of lighting control systems.	✓			✓	1	0.75%					Not achievable due to tunnel protion. **Credit not targeted.**	1) Specialist report / modelling results demonstrating that glare has been designed out. 2) Specification or manufacturer literature for the blinds 3) Drawings with marked up locations of blinds	RIBA Stage 3	Client Architect
		Daylighting	3. Up to three credits are awarded on a sliding scale depending on the percentage of relevant building areas that comply with one of the following daylighting criteria: **Higher education - occupied spaces 2% ADF for 30% / 45% / 60% area** 4. Two credits where daylighting, averaged over all relevant spaces, has improved by 30% or more and there is a minimum glazing to floor area ratio of either: a.5% glass to floor area ratio for side windows; OR b.2.5% glass to floor area ratio for roof lights; 5. One credit where daylighting, averaged over all relevant spaces, has improved by 15% or more and there is a minimum glazing to floor area ratio of either: a.5% glass to floor area ratio for side windows; OR b.2.5% glass to floor area ratio for roof lights. Note: The improvement in daylighting provision is calculated using the BREEAM Hea 01 Calculator tool based upon either the increase in glazing area, transmittance, illuminance or percentage daylight factor.	✓			✓	3	2.26%					Not achievable due to tunnel protion. **Credit not targeted.**	1) Specialist daylight report / calculation / modelling results demonstrating that the daylight values can be achieved in all relevant areas. 2) GA drawings demonstrating the designs, arrangement and location of windows modelled for daylighting.	RIBA Stage 3	Client Architect
		View out	6. Two credits where 95% of the floor area in relevant building areas is within 7m of a wall which has a window or permanent opening that provides an adequate view out. 7.One credit where 80% of the floor area space in relevant building areas is within 7m of a wall which has a window or permanent opening that provides an adequate view out and criterion 8 is met. 8.The window/opening must be ≥ 20% of the surrounding wall area (refer to Hea 01 Visual comfort in the Additional information section). Where the room depth is greater than 7m, compliance is only possible where the percentage of window/opening is the same as, or greater than, the values in Table 1.0 of BS 8206 . 9. In addition, the building type criteria in Table 15 are applicable to view out criteria.	✓			✓	2	1.50%					Not achievable due to tunnel protion. **Credit not targeted.**	1) Drawings (and, if required, supporting calculations) demonstrating that the relevant floor areas are within the required distances. 2) Drawings demonstrating that the windows/openings account for 20% of the surrounding wall area.	RIBA Stage 3	Client Architect
		Internal and external lighting levels, zoning and control	**Internal Lighting** - All fluorescent and compact fluorescent lamps are fitted with high frequency ballasts. - Internal lighting in all relevant areas of the building is designed provide illuminance levels in accordance with the SLL Code for Lighting 2012 and any other relevant industry standard. - For areas where computer screens are regularly used, the lighting design complies with CIBSE Lighting Guide 7 sections 3.3, 4.6, 4.7, 4.8 and 4.9. **External lighting** All external lighting located within the refurbishment or fit-out zone is designed to provide illuminance levels that enable users to perform outdoor visual tasks efficiently and accurately, especially during the night. To demonstrate this, external lighting provided is specified in accordance with BS 5489-1:2013 Lighting of roads and public amenity areas and BS EN 12464-2:2014 Light and lighting - Lighting of work places - Part 2: Outdoor work places. **Zoning and occupant control** Internal lighting is zoned to allow for occupant control in accordance with the specific criteria for relevant areas present within the building:			✓		1	0.75%			1		It is anticipated that this requirement will be met. MEP Engineer to confirm that this will be included in design. Internal lighting will be zoned and occupant controlled. **1 credit targeted.**	1) Specification confirming compliance with the relevant CIBSE, BS and zoning requirements. 2) Drawings confirming the zoning and control of internal and external lighting.	RIBA Stage 4	MEP Engineer

														67.06%	81.00%				
BREEAM Issue ID	BREEAM Issue Title	BREEAM Credit Title	BREEAM Criteria	Part Applicability				Credits Available	% Worth (in total for each BREEAM issue)	Mandatory Requirements		Design Stage Scoring		Commentary	Actions	Indicative Timeframe	Indicative Responsibility
				Part 1	Part 2	Part 3	Part 4			Very Good	Excellent	Targeted	Additional				
Hea 02	Indoor air quality	Indoor air quality (IAQ) plan	An indoor air quality (IAQ) plan has been produced and implemented, with the objective of facilitating a process that leads to design, specification and installation decisions and actions that minimise indoor air pollution during the design, construction and occupation of the building.	✓	✓	✓	✓	1	0.75%			1		An IAQP to be developed by WSP IAQ Team. Action in stage 2: BREEAM compliant IAQP to be provided. **1 credit targeted.**	1) Copy of a BREEAM compliant Indoor Air Quality plan.	RIBA Stage 2/3	Client MEP Engineer / Air Quality Consultant
		Ventilation	Provide fresh air into the building in accordance with the criteria of the relevant standard for ventilation. Design ventilation pathways to minimise the build-up of air pollutants in the building, as follows: a)In air conditioned and mixed mode buildings/spaces: i. The building's air intakes and exhausts are over 10m apart and intakes are over 20m from sources of external pollution; OR ii. The location of the building's air intakes and exhausts, in relation to each other and external sources of pollution, is designed in accordance with BS EN 13779:20071 Annex A2. b)In naturally ventilated buildings/spaces: openable windows/ventilators are over 10m from sources of external pollution. Where present, HVAC systems must incorporate suitable filtration to minimise external air pollution, as defined in BS EN 13779:2007 Annex A3. Areas of the building subject to large and unpredictable or variable occupancy patterns have carbon dioxide (CO2) or air quality sensors specified.	✓	✓	✓		1	0.75%				1	The project will have adequate ventilation and it will be well filtered, however the 10m apart or 20m from sources of pollution rule could be difficult to achieve. To be further investigated in next stage. **1 credit considered additional potential.**	1) Design drawings demonstrating the ventilation pathway distances are to be achieved, or specification confirming these are designed in accordance with BS EN 13779:2007 Annex A2 2) Where applicable, specification confirming that building areas subject to large and unpredictable or variable occupancy patterns have carbon dioxide or air quality sensors	RIBA Stage 4	MEP Engineer
		Volatile organic compound (VOC) emission levels (products)	All decorative paints and varnishes specified meet the criteria in Table 20 At least five of the seven remaining product categories listed in Table 20 meet the testing requirements and emission levels criteria for volatile organic compound (VOC) emissions (listed in the table).				✓	1	0.75%			1		Targeted based on other projects. BREEAM AP to forward the Table 20 to Architect for consideration. **1 credit targeted.**	1) Copy of a BREEAM compliant indoor air quality plan (as above) 2) Specification confirming products are specified to meet the BREEAM VOC levels and testing requirements	RIBA Stage 4	Air Quality Specialist Architect
		Volatile organic compound (VOC) emission levels (post construction)	The formaldehyde concentration level is measured post construction (but pre-occupancy) and is found to be less than or equal to 100µg/m3 averaged over 30 minutes The total volatile organic compound (TVOC) concentration level is measured post construction (but pre-occupancy) and found to be less than 300µg/m3 over 8 hours Where VOC and formaldehyde levels are found to exceed the limits the project team confirms the measures that have, or will be taken, in accordance with the IAQ plan, to reduce the levels to within these limits, including re-measurement. The testing and measurement of the above pollutants are in accordance with the following standards where relevant: a) BS ISO 16000-4: 2011, b) BS ISO 16000-6: 2011, c) BS EN ISO 16017-2: 2003, d) BS ISO 16000-3: 20116 The measured concentration levels of formaldehyde (µg/m³) and TVOC (µg/m³) are reported, via the BREEAM Assessment Scoring and Reporting Tool.				✓	1	0.75%				1	TBC, air flushing could be challenging. **1 credit considered additional potential.**	1) Copy of a BREEAM compliant indoor air quality plan (as above) 2) Written confirmation confirming the commitment to undertake pre-completion testing in line with the BREEAM requirements.	RIBA Stage 4	Contractor
		Adaptability - Potential for natural ventilation	The building ventilation strategy is designed to be flexible and adaptable to potential building occupant needs and climatic scenarios. Occupied spaces are designed to be capable of providing fresh air entirely via a natural ventilation strategy. The following are methods deemed to satisfy this criterion: - Room depths are designed in accordance with CIBSE AM10 (section 2.4). The openable window area in each occupied space is equivalent to 5% of the gross internal floor area of that room/floor plate; OR - The design demonstrates that the natural ventilation strategy provides adequate cross flow of air to maintain the required thermal comfort conditions and ventilation rates. This is demonstrated using the requirements of CIBSE AM10. For fit-out projects (Part 3 assessments), local services are designed to provide fresh air via a natural ventilation strategy and are appropriately designed according to the room depth in accordance with CIBSE AM10. For Part 3 assessments , local services are designed to provide fresh air via a natural ventilation strategy and are appropriately designed according to the room depth in accordance with CIBSE AM10. The natural ventilation strategy is capable of providing at least two levels of user-control on the supply of fresh air to the occupied space	✓	✓	✓		1	0.75%					Not achievable due to tunnel protion. **Credit not targeted.**	1) Specification / report to confirm the building are designed to be capable of providing fresh air entirely via a natural ventilation strategy in accordance with the accepted methods and standards.	RIBA Stage 4	MEP Engineer Architect

											67.06%	81.00%					
BREEAM Issue ID	BREEAM Issue Title	BREEAM Credit Title	BREEAM Criteria	Part Applicability				Credits Available	% Worth (in total for each BREEAM issue)	Mandatory Requirements		Design Stage Scoring		Commentary	Actions	Indicative Timeframe	Indicative Responsibility
				Part 1	Part 2	Part 3	Part 4			Very Good	Excellent	Targeted	Additional				
Hea 04	Thermal comfort	Thermal modelling	Thermal modelling has been carried out using software in accordance with CIBSE AM11. The software used to carry out the simulation at the detailed design stage provides full dynamic thermal analysis. The modelling demonstrates that summer and winter operative temperature ranges in occupied spaces are in accordance with the criteria set out in CIBSE Guide A Environmental design, Table 1.5; or other appropriate industry standard The building is designed to limit the risk of overheating, in accordance with the adaptive comfort methodology outlined in CIBSE TM52: The limits of thermal comfort: avoiding overheating in European buildings. Where undertaking a Part 4 assessment must assess the suitability of existing building services and controls to identify any changes that may be required as a result of fit-out works For air conditioned buildings, the PMV (predicted mean vote) and PPD (predicted percentage of dissatisfied) indices based on the above modelling are reported via the BREEAM assessment scoring and reporting tool.	✓	✓	✓	✓	1	0.75%			1		WSP Sustainability are appointed to provide the thermal modling. **1 credit targeted.**	1) CIBSE AM 11 full dynamic thermal comfort study results confirming that the building complies with the above credit but also can accommodate the expected effects of climate change.	RIBA Stage 3	Client MEP Engineer
		Adaptability - for a projected climate change scenario	All thermal modelling criteria has been achieved The thermal modelling demonstrates that the relevant requirements set out above are achieved for a projected climate change environment. Where thermal comfort criteria are not met for the projected climate change environment, the project team demonstrates how the building has been adapted, or designed to be easily adapted in future using passive design solutions. For air conditioned buildings, the PMV and PPD indices based on the above modelling are reported.	✓	✓			1	0.75%			1		Ditto. HVAC provided, assumed achievable. **1 credit targeted.**	1) CIBSE AM 11 full dynamic thermal comfort study results confirming that the building complies with the above credit but also can accommodate the expected effects of climate change.	RIBA Stage 3	Client MEP Engineer
		Thermal zoning and controls	The thermal modelling analysis has informed the temperature control strategy for the building and its users. The strategy for proposed heating/cooling system(s) demonstrates that it has addressed the following: a. Zones within the building and how the building services could efficiently and appropriately heat or cool these areas. b. Any new local cooling or heating services (or changes to existing services) are designed to ensure they do not conflict with core services c. The degree of occupant control required for these zones, based on discussions with the end user d. How the proposed systems will interact with each other and how this may affect the thermal comfort of the building occupants. e. The need or otherwise for an accessible building user actuated manual override for any automatic systems.		✓	✓		1	0.75%			1		To be advised by MEP. **1 credit targeted.**	1) Specification confirming the thermal controls and their location/accessibility to building users. 2) Written confirmation that the amount of control provided is as a result of discussions with the end user. 3) Drawings showing the thermal zones and associated controls	RIBA Stage 4	MEP Engineer
Hea 05	Acoustic performance	Acoustic performance	The building meets the appropriate acoustic performance standards and testing requirements defined in the checklists and tables section which defines criteria for the acoustic principles of: (a) Sound insulation (b) Indoor ambient noise level (c) Reverberation times. Where undertaking a partial refurbishment or fit-out, the performance standards and testing requirements defined in the checklist and tables section for the following principles are applicable to each assessment part: b. Part 2: criteria for indoor ambient noise levels only c. Part 3: criteria for sound insulation and indoor ambient noise levels	✓	✓	✓	✓	2	1.50%					As advised by Acoustician, the acoustic condition within the tunnel is challenging due to the high level of noise transmission from the underground train pass-by, and in order to achieve suitable indoor ambient noise level criteria for the intended use, extensive mitigation measures would be required to the tunnels. Such mitigation measures are considered very difficult due to cost, space and other logistics including the amount of additional materials required to achieve any meaningful improvement. BREEAM AP to speak to BRE if area weighting can be applied. **Credit not targeted.**	1) Acoustician's report confirming early design advice to meet the required performance standards, and the design is capable achieving the relevant acoustic performance criteria. 2) Written confirmation or specification from the design team confirming the recommendations made by the Acoustician will be implemented to achieved the performance standards. 3) A copy of the Acoustician's CV to confirm they meet the BRE's definition of a Suitably Qualified Acoustician	RIBA Stage 4	Acoustician
		Reverberation times	Acoustic environment (control of reverberation, sound absorption and speech transmission index): Achieve the requirements relating to sound absorption and reverberation times, where applicable, set out in Section 7 of BS 8233:2014.	✓			✓	1	0.75%			1		Controlling RT will be be of the design strategies. **1 credit targeted.**			
Hea 06	Safety and security	Security of site and building	1. A Suitably Qualified Security Specialist (SQSS) conducts an evidence based Security Needs Assessment (SNA) during or prior to Concept Design (RIBA Stage 2 or equivalent), see compliance note where the refurbishment or fit-out zone comprises part of a larger building. 2.The SQSS develops a set of recommendations or solutions during or prior to Concept Design (RIBA Stage 2 or equivalent). These recommendations or solutions aim to ensure that the design of buildings, public and private car parks and public or amenity space are planned, designed and specified to address the issues identified in the preceding SNA. 3.The recommendations or solutions proposed by the SQSS are implemented (see CN5.2. Any deviation from those recommendations or solutions will need to be justified, documented and agreed in advance with a suitably qualified security specialist.	✓			✓	1	0.75%			1		WSP SQSS appointed during Stage 2. BREEAM compliant Security Needs Assessment will be covered. Action in stage 2: SQSS report and CV to be provided. **1 credit targeted.**	1) SQSS Report and Recommendations 2) Drawings demonstrating implementation of ALO recommendations.	RIBA Stage 2	Client SQSS

Pass	≥ 30%
Unclassified	< 30%

Pass	≥ 30%
Unclassified	< 30%

												67.06%	81.00%					
BREEAM Issue ID	BREEAM Issue Title	BREEAM Credit Title	BREEAM Criteria	Part Applicability				Credits Available	% Worth (in total for each BREEAM issue)	Mandatory Requirements		Design Stage Scoring		Commentary	Actions	Indicative Timeframe	Indicative Responsibility
				Part 1	Part 2	Part 3	Part 4			Very Good	Excellent	Targeted	Additional				
Energy																	
Ene 01	**Reduction of energy use and carbon emissions**	Whole building energy model	Project can demonstrate compliance with a whole building energy model (Max fifteen credits) OR elemental level energy model (Max twelve credits) Two additional credits are available for historic buildings dependant on scores achieved in the whole building energy model/elemental level energy model and if a set list of requirements is met	✓	✓	✓	✓	15	9.53%		6 credits (for part 1,2,3 and 4 ass'mnts)	4	2	NC 2014: Furnival Street (2 credits according to BRUKL outputs) RFO 2014 Option 1: Fulwood Place and Tunnel The credits will be area weighted. **4 credits targeted. 2 credits considered additional potential.**	1) As-designed BRUKL Input (.inp) and Output (pdf) report for both the existing and proposed building. 2) Details of the Energy Assessor's Accreditations	RIBA Stage 4	MEP Engineer Accredited Energy Assessor
Ene 02	**Energy monitoring**	Sub-metering of major energy consuming systems	Energy metering systems are installed that enable at least 90% of the estimated annual energy consumption of each fuel to be assigned to the various end-use categories of energy consuming systems. The energy consuming systems in buildings with a total useful floor area greater than 1,000m2. are metered using an appropriate energy monitoring and management system (e.g. BMS) The end energy consuming uses are identifiable to the building users, for example through labelling or data outputs.		✓	✓	✓	1	0.64%	1 (pts 2, 3, 4)	1 (pts 2, 3, 4)	1		BMS system and sub-metering present. **2 credits targeted.**	1) Specification / metering schematic / drawings confirming metering of relevant systems. 2) Written confirmation of the systems that have been metered using a pulsed output meter.	RIBA Stage 4	MEP Engineer
		Sub-metering of high energy load and tenancy areas	An accessible energy monitoring and management system is provided, covering a significant majority of the energy supply to tenanted areas or, in the case of single occupancy buildings, relevant function areas or departments within the building/unit.		✓	✓		1	0.64%			1					
Ene 03	**External lighting**	External lighting	The building has been designed to operate without the need for external lighting (including building, signs and at entrances). OR Where the building does have external lighting: - The average initial luminous efficacy of the external light fittings within the construction zone is not less than 60 luminaire lumens per circuit Watt. - All external light fittings are automatically controlled for prevention of operation during daylight hours and presence detection in areas of intermittent pedestrian traffic.		✓	✓		1	0.64%			1		It is anticipated that this requirement will be met. **1 credit targeted.**	1) Specification confirming compliance with the relevant energy efficient lighting and lighting control criteria. 2) Drawings showing the extent of the external lighting and the type of fittings. 3) Manufacturers literature/datasheets for the specified external light fittings (if known at this stage).	RIBA Stage 4	MEP Engineer
Ene 04	**Low carbon design**	Passive design analysis	The first credit within issue Hea 04 Thermal comfort has been achieved. The project team carries out an passive design analysis of the proposed building design to influence decisions made during RIBA Stage 2 and identify opportunities for the implementation of passive design solutions. The building implements passive design measures in line with the passive design analysis and provides a meaningful reduction in total energy demand.	✓	✓	✓		1	0.64%			1		WSP Sustainability are appointed to provide passive design analysis. Action in stage 2: BREEAM complaint Passive Design Report to be provided. **1 credit targeted.**	1) A copy of the passive design analysis report 2) Drawings / specifications demonstrating the inclusion of any passive design measures resulting from the findings of the passive design analysis. 3) Calculations confirming the meaningful reduction of the total heating, cooling, mechanical ventilation and lighting loads and energy consumption in line with the findings of the passive design analysis as a result of implementing passive design measures.	RIBA Stage 2	MEP Engineer WSP Sustainability
		Free cooling	The passive design analysis credit is achieved. The passive design analysis carried out includes an analysis of free cooling and identifies opportunities for the implementation of free cooling solutions. The building uses ANY of the free cooling strategies listed in the BREEAM manual to reduce the cooling energy demand, i.e. it does not use active cooling.	✓	✓			1	0.64%				1	WSP Sustainability are appointed to provide free cooling analysis. Action in stage 2: Free cooling analysis to be included in Passive Design Report. **1 credit considered additional potential.**	1) A copy of the specialist report confirming the outcomes of the dynamic simulation model to demonstrate the feasibility of a free cooling strategy meeting the requirements. 2) Drawings / specification confirming the inclusion of the free cooling strategy measures.	RIBA Stage 2	MEP Engineer WSP Sustainability
		Low zero carbon feasibility study	A feasibility study has been carried out by the completion of the RIBA Stage 2 by an energy specialist to establish the most appropriate recognised local low or zero carbon (LZC) energy source for the building. A local LZC technology has been specified for the development in line with the recommendations of this feasibility study and provides a meaningful reduction in regulated carbon dioxide (CO2) emissions.		✓			1	0.64%			1		WSP Sustainability are appointed to provide LZC study. Action in stage 2: LZC report along with Energy Specialist CV to be provided. **1 credit targeted.**	1) BREEAM compliant LZC feasibility study. 2) BRUKL Output report for designed and standard case building and associated calculations to demonstrate the reduction in CO2 emissions. 3) Drawings / specifications demonstrating the inclusion of the recommended LZC technology.	RIBA Stage 2	MEP Engineer WSP Sustainability

Pass	≥ 30%	
Unclassified	< 30%	

											67.06%	81.00%					
BREEAM Issue ID	BREEAM Issue Title	BREEAM Credit Title	BREEAM Criteria	Part Applicability				Credits Available	% Worth (in total for each BREEAM issue)	Mandatory Requirements		Design Stage Scoring		Commentary	Actions	Indicative Timeframe	Indicative Responsibility
				Part 1	Part 2	Part 3	Part 4			Very Good	Excellent	Targeted	Additional				
Ene 06	Energy efficient transportation systems	Energy consumption	1.Where new lifts are specified within refurbishment works: a. An analysis of the transportation demand and usage patterns for the building has been carried out to determine the optimum number and size of lifts, escalators and/or moving walks. b. The energy consumption has been estimated in accordance with BS EN ISO 25745 Energy performance of lifts, escalators and moving walks, Part 2: Energy calculation and classification for lifts (elevators) and/or Part 3 - Energy calculation and classification for escalators and moving walks, for one of the following: i. At least two types of system (for each transportation type required); OR ii. An arrangement of systems (e.g. for lifts, hydraulic, traction, machine room-less lift (MRL)); OR iii. A system strategy which is 'fit for purpose'. c. The use of regenerative drives should be considered, subject to the requirements in CN6 d. The transportation system with the lowest energy consumption is specified.		✓	✓		1	0.64%			1		It is anticipated that this requirement will be met. **1 credit targeted.**	1) The professional study of transportation analysis and energy consumption comparison of systems/ strategies. 2) Specification confirming implementation of lowest energy consuming lift system/strategy.	RIBA stage 3	VT Engineer
		Energy Efficient features	For each **newly specified** lift, the following three energy efficient features are specified and for **existing lifts**, at least two of the following energy efficient features are specified: a. The lifts operate in a standby condition during off-peak periods. b. The lift car lighting and display lighting provides an average lamp efficacy, (across all fittings in the car) of > 55 lamp lumens/circuit Watt. c. The lift uses a drive controller capable of variable speed, variable-voltage, and variable-frequency (VVVF) control of the drive motor. Where the use of regenerative drives is demonstrated to save energy, they are specified.		✓	✓		2	1.27%			2		It is anticipated that this requirement will be met. **2 credits targeted.**	1) Specification confirming at least three energy efficient features of the specified lift. 2) Manufacturer datasheet for the specified lift demonstrating the energy efficient features.	RIBA stage 3	VT Engineer
Ene 08	Energy efficient equipment		Identify the building's unregulated energy consuming loads and estimate their contribution to the total annual unregulated energy consumption of the building, assuming a typical/standard specification. Identify the systems and/or processes that use a significant proportion of the total annual unregulated energy consumption of the development and its operation. Demonstrate a meaningful reduction in the total unregulated energy consumption of the building. **A:** Small power, plug-in equipment The following equipment has been awarded an Energy Star rating OR has been procured in accordance with the Government Buying Standards: - Office equipment - Other small powered equipment - Supplementary electric heating. **D**: Data centres 1. Design is in accordance with the 'Best practices for the EU Code of Conduct on Data Centres' principles with the data centre achieving at least the 'Expected minimum practice' level (as defined in the Code of Conduct). 2. Temperature set points are not less than 24°C, as measured at the inlet of the equipment in the rack. **I**: Internal display lighting Display lighting shall have a minimum luminaire efficacy of ≥ 60 luminaire lumens per circuit Watt in accordance with the Enhanced Capital Allowance Scheme. Display lighting shall also be controlled by a time switch to prevent operation after midnight except where the area is open to the public. **J**: Overhead warm air heaters (e.g air curtains) In all cases where overhead warm air heaters are used, they are to be controlled using automatic temperature control. Where the units supply multiple areas then these shall be controlled by zone temperature sensors.			✓	✓	2	1.27%			2		It is anticipated that this requirement will be met. D: Comms rooms will be available. I: Exhibition area might be excluded, permenent eqippment will be within scope. BREEAM AP to send out the detail requirements. **2 credits targeted.**	1) Specification confirming the white goods to be procured or written confirmation that any white goods will comply with the performance requirements. 2) Manufacturer datasheet for the specified white goods, if known.	RIBA Stage 2	Client Project Team

														67.06%	81.00%				
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				Part 1	Part 2	Part 3	Part 4			Very Good	Excellent	Targeted	Additional				
Transport																			
(for a part 2/3 only without a change of use																			
Tra 01	**Public transport solutions**	Accessibility Index	1.The public transport Accessibility Index (AI) for the assessed building is calculated and BREEAM credits awarded according to the building type. For Accessibility Index benchmarks see Table - 34 in the Checklists and tables section. 2.The Accessibility Index is determined by entering the following information into the BREEAM Tra 01 calculator: a. The distance (m) from the main building entrance to each compliant public transport node b. The public transport type(s) serving the compliant node, e.g. bus or rail c. The average number of services stopping per hour at each compliant node during the operating hours of the building for a typical day (see compliance notes and Table - 36 in the Additional information section). Up to three credits - Alternative transport measures 3.Where alternative transport measures are provided, credits can be awarded based upon the number of measures implemented	✓			✓	5	3.68%			5		Based on project location, it is anticipated that this requirement will be met. **5 credits targeted.**	1) Location map marked-up to confirm: a. public transport nodes b. safe pedestrian walking routes 2) Transport timetables for all relevant bus and train services at the identified nodes.	RIBA Stage 3	Architect Client
Tra 02	Proximity to amenities		Recognition of projects where proximity of, and accessibility to, local amenities which are likely to be frequently required and used by building occupants has been reviewed.	✓			✓	1	0.74%			1		Based on project location, it is anticipated that this requirement will be met. **1 credit targeted.**	1) Location map marked-up to confirm location and safe pedestrian routes and distances (500m) to at least TWO of the THREE following amenities: a. food outlet b. cash machine c. Access to a recreation/leisure facility for fitness/sports	RIBA Stage 3	Architect Client
Tra 03	**Cyclist facilities**	Cycle storage	1. Compliant cycle storage spaces that meet the minimum levels set out in Table - 38 are installed.	✓			✓	1	0.74%			1		It is anticipated that this requirement will be met. Numbers of cycle storage TBC. The project proposing to use cycle parking inside the building secure long stay cycle parking for staff within Furnival St - 10 spaces was the amount. Short savers to be provided in the public realm. **1 credit targeted.**	1) Design plan confirming location and number of cycle spaces. 2) Manufacturer datasheet for cycle racks. 3) Written confirmation of actual or nominal building occupancy - Nominal numbers can be calculated based on calculation ratios provided in the BREEAM technical manual. 4) Specification / drawings to confirm the security and lighting standards comply with requirements.	RIBA Stage 3	Architect Client
		Cyclist facilities	2. Criterion 1 has been achieved. 3. At least two of the following types of compliant cyclist facilities have been provided for all building users (including pupils where appropriate to the building type) - see Relevant definitions for the scope of each compliant cyclist facility: a) Showers b) Changing facilities c) Lockers d) Drying spaces .	✓			✓	1	0.74%			1		It is anticipated that this requirement will be met. At least two are proposed. **1 credit targeted.**		RIBA Stage 3	Architect Client
Tra 04	Maximum car parking capacity		The building's car parking capacity is compared to the maximum car parking capacity benchmarks in Table 39 and the relevant number of BREEAM credits awarded.	✓	✓	✓	✓	2	1.47%			2		No parking space will be provided. There is an existing blue badge space on Furnival St which is going to be retained. **2 credits targeted.**		None	None
Tra 05	Travel plan		1.A travel plan has been developed as part of the feasibility and design stages. 2. A site specific travel assessment/statement has been undertaken to ensure the travel plan is structured to meet the needs of the particular site and covers the requirements in the BREEAM manual 3. The travel plan includes a package of measures to encourage the use of sustainable modes of transport and movement of people and goods during the building's operation and use. 4.If the occupier is known, they must be involved in the development of the travel plan and they must confirm that the travel plan will be implemented post refurbishment or fit-out and be supported by the building's management in operation.	✓			✓	1	0.74%			1		WSP Transport is appointed to provide the Travel Plan. Action in stage 2: BREEAM compliant Travel Plan to be provided. **1 credit targeted.**	1) A copy of the Travel Plan for the building. 2) Written confirmation and/or drawings demonstrating the measures outlined in the plan will be implemented.	RIBA stage 1/2	Client Transport Consultant

Pass	≥ 30%
Unclassified	< 30%

Pass	≥ 30%
Unclassified	< 30%

												67.06%	81.00%					
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				Part 1	Part 2	Part 3	Part 4			Very Good	Excellent	Targeted	Additional				
Water																	
Wat 01	**Water consumption**		Up to five credits where evidence provided demonstrates that the specification includes taps, urinals, WCs and showers that consume less potable water in use than standard specifications for the same type of fittings. Credits are awarded based on the following improvement over the notional baseline: - One credit - 12.5% improvement - Two credits - 25% improvement - Three credits - 40% improvement - Four credits - 50% improvement - Five credits - 55% improvement The calculations is based upon the following sanitary fittings: a) WCs; b) Urinals; c) Taps; d) Showers; e) Baths; f) Dishwashers; g) Washing machine; h) Kitchen pre-rinse nozzles		✓	✓	✓	5	3.68%	1	1	3	1	Design Team confirm improvement over notional baseline by water-saving fittings. It is also advised that rainwater harvesting will be designed. **3 credits targeted. 1 credit considered potential.**	1) Specification / sanitary schedule confirming number of fittings and water efficiency figures for the following: a) WCs b) Urinals c) Taps d) Showers e) Baths f) Dishwashers g) Washing machines 2) Manufacturer datasheet confirming the water efficiency figures in the specification can be delivered.	RIBA Stage 4	Architect MEP Engineer
Wat 02	**Water Monitoring**		One credit where evidence provided demonstrates that a water meter with a pulsed output will be installed on the mains supply to each building/unit. The water consuming plant or areas consuming 10% or more of the building's water use need to be fitted with a pulsed sub meter or have water monitoring equipment integral to the plant or area. If the refurbishment zone is within a site that has an existing BMS, managed by the same occupier/owner, the pulsed/digital water meters must be connected to the existing BMS		✓	✓	✓	1	0.74%	Criterion 1 (part 2)	Criterion 1 (part 2)	1		It is anticipated that this requirement will be met. **1 credit targeted.**	1) Specification confirming the provision of a water meter and its connection to BMS. 2) Design plan confirming location of water meter and BMS display. 3) Written confirmation whether water consuming plant or areas consume 10% or more of the building's water use.	RIBA Stage 4	MEP Engineer
Wat 03	**Water Leak detection**	Leak Detection	A leak detection system which is capable of detecting a major water leak on the mains water supply within the building and between the building and the utilities water meter is installed. The leak detection system must be: a) A permanent automated water leak detection system that alerts the building occupants to the leak OR an inbuilt automated diagnostic procedure for detecting leaks is installed. b) Activated when the flow of water passing through the water meter/data logger is at a flow rate above a pre-set maximum for a pre-set period of time. c) Able to identify different flow and therefore leakage rates, e.g. continuous, high and/or low level, over set time periods. d) Programmable to suit the owner/occupiers' water consumption criteria. e) Where applicable, designed to avoid false alarms caused by normal operation of large water-consuming plant such as chillers.		✓			1	0.74%			1		It is anticipated that this requirement will be met. **1 credit targeted.**	1) Specification confirming the inclusion of the leak detection system and its capabilities as listed in the BREEAM Criteria column.	RIBA Stage 4	MEP Engineer
		Flow Control Devices	Flow control devices that regulate the supply of water to each WC area/facility according to demand are installed (and therefore minimise water leaks and wastage from sanitary fittings).		✓	✓	✓	1	0.74%			1		It is anticipated that this requirement will be met. **1 credit targeted.**	1) Specification confirming the inclusion of flow control devices. 2) Design plan / schematic confirming location of solenoid valves and PIRs to WC areas.	RIBA Stage 4	MEP Engineer
Wat 04	**Water efficient equipment**	Water efficient equipment	One credit where the design team has identified all unregulated water demands that could be realistically mitigated or reduced. The systems or processes have been identified to reduce the unregulated water demand, and demonstrate, through either good practice design or specification, a meaningful reduction in the total water demand of the building. **Where no irrigation systems are specified, and therefore there are no unregulated water demands for the building, this issue can be awarded by default.**	✓	✓	✓	✓	1	0.74%			1		Rainwater harevesing is available but need to check if the collected rainwater will be used for irrigation. To further check with Ecologist and landscape consultant. **1 credit targeted.**	1) Written confirmation of the irrigation strategy. 2) Datasheets and drawings from any irrigation system to be installed to confirm compliance with the requirements. (if applicable / known)	RIBA stage 3	MEP Engineer Landscape Architect

Pass	≥ 30%
Unclassified	< 30%

												67.06%	81.00%				
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				Part 1	Part 2	Part 3	Part 4			Very Good	Excellent	Targeted	Additional				
Materials																	
Mat 01	**Life cycle impacts**	Project lifecycle assessment study	**OPTION 2** Robust environmental performance information has been collected for newly specified materials or where materials are retained in situ for the following elements: a) Heat source, space heating, air-conditioning and ventilation b) Communication, security and control systems c) Electrical installations d) Fire and lightning protection e) Lift and conveyor installations/systems f) Water and waste installations g) Sanitary installations Credits are awarded based upon the percentage of available points achieved. The total number of points achieved is based on the percentage of each element that has been: - reused in situ - reused in situ with minor repairs - specified with robust environmental performance information.	✓	✓	✓	✓	6	6.36%			2	1	NC 2014: Furnival Street RFO 2014: Fulwood Place and Tunnel (Option 2) Most of shed envelope will be reused. Products selected must have EPD. To be put in specification. **2 credits targeted. 1 credit considered potential.**	1) Report/Minutes confirming the proportion of materials which will be reused. 2) Completed Mat 01 Calculator tool.	RIBA Stage 4	Architect MEP Engineer Structual WSP Sustainability
Mat 03	**Responsible sourcing of materials**	Pre-requisite	All timber and timber based products used on the project is 'Legally harvested and traded timber'	✓	✓	✓	✓	yes		Criterion 1	Criterion 1	Yes		**Pre-requisite targeted.**	1) Drawings/specification confirming material build up of elements. 2) Completed Mat 3 template table confirming the following: - Breakdown of element - Supplier details and certification type (e.g. ISO14001) - Volume of material 3) Specification confirming that all timber will be sourced in accordance with the UK Government's Timber Procurement Policy. 4) A copy of a BREEAM compliant Sustainability Procurement Plan	RIBA Stage 4	Client Contractor
		Sustainable procurement plan	The principal contractor sources materials for the project in accordance with a documented sustainable procurement plan	✓	✓	✓	✓	1	1.06%			1		To include requirement for the principal contractor to have in place a sustainable procurement plan. WSP to provide a sample plan. **1 credit targeted.**		RIBA Stage 3	Client WSP BREEAM
		Responsible sourcing of materials (RSM)	Up to three credits of the available RSM credits can be awarded where the applicable building materials are responsibly sourced in accordance with the BREEAM methodology. Credits are awarded based on the following % points achieved: - Three credits - 54% of available points achieved - Two credits - 36% - One credit - 18%	✓	✓	✓	✓	3	3.18%			1	1	Design Team to ensure as much materials as possible is procured from responsible resourcing. This is to be implemented into the design, where applicable. **1 credit targeted. 1 credit considered potential.**		RIBA Stage 4	Architect Contractor Client
Mat 04	**Insulation**	Embodied impact	Any new insulation specified for use within the following building elements must be assessed: (a.) External walls; (b.) Ground floor; (c.) Roof; (d.) Building services. The Insulation Index for the building fabric and services insulation is the same as or greater than 2.5. Therefore at least 50% of the insulation must be A+ rated, with the remaining 50% to be at least A rated.	✓	✓	✓	✓	1	1.06%				1	It is anticipated that this requirement will be met. It is likely that proposed insulation is suitable and BREEAM compliant - to be confirmed and reviewed. **1 credit considered potential.**	1) Drawings/specification confirming material build up of insulation elements. 2) Completed Mat 4 template table confirming the following for each material specification: a. area (m²) b. thickness (mm) c. thermal conductivity (W/m.k) d. green guide rating	RIBA Stage 4	Architect MEP Engineer

Pass	≥ 30%
Unclassified	< 30%

											67.06%	81.00%					
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				Part 1	Part 2	Part 3	Part 4			Very Good	Excellent	Targeted	Additional				
Mat 05	**Designing for durability and resilience**	Protecting vulnerable parts of the building from damage and material degradation	Protecting vulnerable parts of the building from damage. The building incorporates suitable durability and protection measures or designed features/solutions to prevent damage to vulnerable parts of the internal and external building and landscaping elements; such as: - Bollards/barriers/raised kerbs to delivery and vehicle drop-off areas - Corridor walls specified to Severe Duty (SD) as per BS 5234-21 - Protection rails to walls of corridors - Kick plates/impact protection (from trolleys etc.) on doors - Hard-wearing and easily washable floor finishes in heavily used circulation areas (i.e. main entrance, corridors, public areas etc.) Protecting exposed parts of the building from material degradation The relevant building elements incorporate appropriate design and specification measures to limit material degradation due to environmental factors Existing building elements, have been assessed to identify impacts of material degradation effects including an assessment to grade the severity of any degradation effects. Design measures have been developed to repair and protect existing elements according to the severity of any degradation affects, to limit degradation. Newly specified materials or newly constructed elements (e.g. a new external wall) within the scope of refurbishment or fit-out works incorporate appropriate design and specification measures to limit material degradation due to environmental factors	✓			✓	1	1.06%			1		It is anticipated that this requirement will be met. Architect, MEP and structural to input the CE Matrix. **1 credit targeted.**	1) Design plan marked-up to confirm internally and externally: a. areas of vulnerability b. protection from the effects of high pedestrian traffic c. protection against any internal vehicular/ trolley movement d. protection against or prevention from any potential vehicular collision where vehicular parking and manoeuvring occurs. 2) Completed Mat 05 proforma detailing design measures to protect the building from environmental degradation	RIBA Stage 2/4	Architect Structural Engineer MEP Engineer
Mat 06	**Material efficiency**	Material efficiency	Opportunities have been identified, and appropriate measures investigated and implemented, to optimise the use of materials in building design, procurement, construction, maintenance and end of life. The above is carried out by the design/construction team in consultation with the relevant parties at each of the following RIBA stages: a. Preparation and Brief b. Concept Design c. Developed Design d. Technical Design e. Construction.	✓	✓	✓	✓	1	1.06%			1		Materials efficiency reporting to be provided in RIBA Stages 2, 3, 4 and 5. Action in stage 2: Materials Efficiency report to be produced. Architect, MEP and structural to input the CE Matrix. **1 credit targeted.**	1) Material efficiency design notes / report revisions for each key RIBA stage reached to date, identifying opportunities for and appropriate measures taken to optimise the use of materials in building design, procurement, construction, maintenance and end of life. 2) Supporting documentary evidence of implementing measures for optimising the use of materials (e.g. specifications, drawings, etc...)	RIBA Stage 1/2	Architect Structural Engineer MEP Engineer

Pass	< 30%
Unclassified	< 30%

												67.06%	81.00%				
BREEAM Issue ID	BREEAM Issue Title	BREEAM Credit Title	BREEAM Criteria	Part Applicability				Credits Available	% Worth (in total for each BREEAM issue)	Mandatory Requirements		Design Stage Scoring		Commentary	Actions	Indicative Timeframe	Indicative Responsibility
				Part 1	Part 2	Part 3	Part 4			Very Good	Excellent	Targeted	Additional				
Waste																	
Wst 01	**Project waste management**	Pre-refurbishment audit	The client shall ensure that a pre-refurbishment audit of all existing buildings, structures or hard surfaces within the scope of the refurbishment or fit-out zone is completed. The audit should be carried out prior to strip-out or demolition works, be referenced in the resource management plan and cover: d. Identification and quantification of the key materials where present on the project e. Potential applications and any related issues for the reuse and recycling of the key materials in accordance with the waste hierarchy. f. Identification of local reprocessors or recyclers for recycling of materials g. Identification of overall recycling rate for all key materials h. Identification of reuse targets where appropriate. i. Identification of overall landfill diversion rate for all key materials.	✓	✓	✓	✓	1	0.69%			1		Pre-Demolition Audit to undertaken during prior to any strip out or demolition. According to CE workshop, demolition auidt will be carried out. **1 credit targeted.**	1) A copy of a compliant pre-refurbishment audit. 2) Completed Wst01 Proforma identifying all material types present prior to strip out and confirmation as to whether they will be re-used or recycled 3) Confirmation of all materials which are unable to be reused due to contamination (asbestos) 4) Written confirmation that the contractor will meet the resource efficiency and diversion from landfill targets 5) Written commitment to produce a BREEAM compliant Resource Management Plan / Site Waste Management Plan	RIBA Stage 3	Client Contractor
		Reuse and direct recycling of materials	Where waste material types detailed in the BREEAM manual are either directly re-used on-site or off-site or are sent back to the manufacturer for closed loop recycling Credits are awarded based on the % of available points achieved for the waste material types detailed in Table - 64, that are present on the project: - Two credits - 75% - One credit - 50%	✓	✓	✓	✓	2	1.38%			2		This is to be included as part of the employer's requirements for the contractor to deliver. **2 credits targeted,.**		RIBA Stage 4	Client Contractor
		Resource efficiency	Develop and implement a compliant resource management plan covering the waste arising's project One credit for <11.3 m³ per 100m² (gross internal floor area) Two credits for <4.5m³ per 100m² Three credits for < 2.1m³ per 100m²	✓	✓	✓	✓	3	2.07%			2	1	According to CE workshop, assumed 2 credits at this stage. **2 credits targeted. 1 credit considered potential.**		RIBA Stage 4	Client Contractor
		Diversion of resources from landfill	One credit where evidence provided demonstrates that: - 85% by volume or 90% by tonnage non-hazardous construction AND - 90% by volume or 95% by tonnage demolition waste generated by the development will be diverted from landfill and reused or recycled.	✓	✓	✓	✓	1	0.69%			1		It is anticipated that this requirement will be met. CE & WLC has more onerous requirements. **1 credit targeted.**		RIBA Stage 4	Client Contractor
Wst 02	**Recycled aggregates**	Recycled aggregates	1. The percentage of high grade aggregate that is recycled or secondary aggregate, specified in each application (present) must meet the following minimum % levels (by weight or volume) to contribute to the total amount of recycled or secondary aggregate, as specified in Table 67 . 2. The total amount of recycled or secondary aggregate specified, and meeting criterion 1, is greater than 25% (by weight or volume) of the total high grade aggregate specified for the project. Where the minimum level in criterion 1 is not met for an application, all the aggregate in that application must be considered as primary aggregate when calculating the total high grade aggregate specified. 3. The recycled or secondary aggregates are EITHER: a) Construction, demolition and excavation waste obtained on-site or off-site; OR b) Secondary aggregates obtained from a non-construction post-consumer industrial by product source.	✓				1	0.69%					This credit may be difficult to achieve from other project exp. **Unlikely to achieve.**		None	None

Pass	≥ 30%
Unclassified	< 30%

												67.06%	81.00%					
BREEAM Issue ID	BREEAM Issue Title	BREEAM Credit Title	BREEAM Criteria	Part Applicability				Credits Available	% Worth (in total for each BREEAM issue)	Mandatory Requirements		Design Stage Scoring		Commentary	Actions	Indicative Timeframe	Indicative Responsibility
				Part 1	Part 2	Part 3	Part 4			Very Good	Excellent	Targeted	Additional				
Wst 03	**Operational waste**	Operational waste	1. Dedicated space(s) is provided for the segregation and storage of operational recyclable waste volumes generated by the assessed building/unit, its occupant(s) and activities. This space must be: a. Clearly labelled, to assist with segregation, storage and collection of the recyclable waste streams b. Accessible to building occupants or facilities operators c. Of a capacity appropriate to the building type, size, number of units (if relevant) and predicted volumes of waste 2. Where the consistent generation in volume of the appropriate operational waste streams is likely to exist, the following facilities are provided: a. Static waste compactor(s) or baler(s); situated in a service area or dedicated waste management space. b. Vessel(s) for composting suitable organic waste; OR adequate space(s) for storing segregated food waste and compostable organic material prior to collection. c. Where organic waste is on-site, a water outlet is provided adjacent to or within the facility for cleaning and hygiene purposes.	✓			✓	1	0.69%			1		Dedicated space is provided for the storage of the building's recyclable waste streams. **1 credit targeted.**	1) Design plan confirming location and area (m²) of storage area. 2) Written confirmation that the space is adequately sized for the anticipated volume of waste and the waste collection arrangement, is clearly labelled for recycling, within easy reach of the building (<20m away from an entrance) and in a location with good vehicular access.	RIBA Stage 4	Architect Client
Wst 05	**Adaptation to climate change**	structural and fabric resilience	1. Conduct a climate change adaptation strategy appraisal for structural and fabric resilience by the end of Concept Design (RIBA Stage 2 or equivalent), in accordance with the following approach: a) Carry out a systematic (structural and fabric resilience specific) risk assessment to identify and evaluate the impact on the building over its projected life cycle from expected extreme weather conditions arising from climate change and, where feasible, mitigate against these impacts. The assessment should cover the following stages: i. Hazard identification ii. Hazard assessment iii. Risk estimation iv. Risk evaluation v. Risk management.	✓				1	0.69%			1		Action in stage 2: Architect, MEP and structural to input the CE Matrix. **1 credit targeted.**	1) A copy of the Climate change adaptation strategy appraisal report to identify and evaluate the impact on the building over its projected life cycle from expected extreme weather conditions arising from climate change and, where feasible, mitigate against these impacts. 2) Evidence to demonstrate how the findings of the Climate Change Adaptation Strategy Appraisal has influenced the design and measures that have been taken to mitigate the impact of the expected effects (e.g. specification documents)	RIBA Stage 2	Architect Structural Engineer MEP Engineer
Wst 06	**Functional adaptability**	Functional adaptability	A building-specific functional adaptation strategy study has been undertaken by the client and design team by RIBA Stage 2, which includes recommendations for measures to be incorporated to facilitate future adaptation. Functional adaptation measures have been implemented by RIBA Stage 4 in accordance with the functional adaptation strategy recommendations, where practical and cost effective.	✓	✓	✓	✓	1	0.69%			1		Action in stage 2: According to CE workshop, the development will be designed for disassembly and adaptability. Architect, MEP and structural to input the CE Matrix. **1 credit targeted.**	1) A copy of the Functional adaptation strategy appraisal report to identify and make recommendations for measures to be incorporated to facilitate future adaptation. 2) Evidence to demonstrate how the findings of the Functional adaptation strategy appraisal report have influenced the design and particular measures have been implemented (e.g. implementation report, drawings or specification documents)	RIBA Stage 2	Architect Structural Engineer MEP Engineer

Pass	≥ 30%
Unclassified	< 30%

												67.06%	81.00%				
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				Part 1	Part 2	Part 3	Part 4			Very Good	Excellent	Targeted	Additional				
Land Use and Ecology																	
or existing landscaping areas within the refurbishment or fit-out zone																	
Le 02	**Protection of ecological features**		1. All existing features of ecological value within and surrounding the refurbishment or fit-out zone and site boundary area are adequately protected from damage during clearance, site preparation and refurbishment or fit-out activities in line with BS42020: 20131. 2. In all cases, the principal contractor is required to construct ecological protection recommended by the Suitably Qualified Ecologist (SQE), prior to any preliminary site refurbishment or fit-out or preparation works (e.g. erection of temporary site facilities).	✓	✓	✓	✓	1	2.21%			1		WSP Ecology Team has been appointed to carry out the studies. Subject to Ecologist advice. **1 credit targeted.**	1)A copy of the ecologist's CV to confirm they meet the BRE's definition of a Suitably Qualified Ecologist. 2) Suitably Qualified Ecologist's report highlighting ecological features that need protection. 3) Written commitment the protection recommendations will be implemented by the contractor.	RIBA Stage 2	Ecologist
Le 04	**Enhancing site ecology**		1. A suitably qualified ecologist (SQE) has been appointed by the client or their project representative by the end of the RIBA Stage 1 to advise on enhancing the ecology of the site at an early stage. 2. The SQE has provided an Ecology Report with appropriate recommendations for the enhancement of the site's ecology at RIBA Stage 2. The report is based on a site visit/survey by the SQE (see also CN4.1). 3. The early stage advice and recommendations of the Ecology Report for the enhancement of site ecology have been, or will be, implemented in the refurbishment or fit-out.	✓				1	2.21%			1		WSP Ecology Team has been appointed to carry out the studies. Subject to Ecologist advice. **1 credit targeted.**	1) Appointment letter for the Suitably Qualified Ecologist. 2)A copy of the ecologist's CV to confirm they meet the BRE's definition of a Suitably Qualified Ecologist. 3) Suitably Qualified Ecologist's report highlighting information required in accordance with the BREEAM manual. 4) Written commitment the enhancement recommendations will be implemented by the contractor.	RIBA Stage 2	Ecologist
Le 05	**Long term impact on biodiversity**		1. Where a Suitably Qualified Ecologist (SQE) is appointed prior to commencement of activities on-site and they confirm that all relevant UK and EU legislation relating to the protection and enhancement of ecology has been complied with during the refurbishment or fit-out process. 2. Where a landscape and habitat management plan, appropriate to the site, is produced covering at least the first five years after project completion in accordance with BS 42020:20131 Section 11.1. This is to be handed over to the building owner/occupants for use by the grounds maintenance staff. 3. Where additional measures to improve the assessed site's long term biodiversity are adopted: 1 credit where 2 additional measures are adopted 2 credits where 4 additional measures are adopted	✓	✓	✓	✓	2	4.42%			2		Subject to Ecologist advice. **2 credits targeted.**	1) Appointment letter for the Suitably Qualified Ecologist. 2)A copy of the ecologist's CV to confirm they meet the BRE's definition of a Suitably Qualified Ecologist. 2) Copy of or confimation a habitat and lanscape management plan will be produced. 4) Written confirmation the contractor will implement additional biodiversty measures.	RIBA Stage 4	Ecologist
Pollution																	
Pol 01	**Impact of refrigerants**	Pre-requisite	All systems (with electric compressors) must comply with the requirements of BS EN 378:20081 and where refrigeration systems containing ammonia are installed, the Institute of Refrigeration Ammonia Refrigeration Systems Code of Practice.		✓	✓	✓	-				Yes		**Pre-requisite targeted.**	1) Written confirmation and manufacturer datasheet of the relevant refrigeration type confirming refrigerant charge (kg) and system information, if applicable: a. Refrigerant Recovery Efficiency factor (%) b. Annual Leakage Rate (units: % refrigerant charge) c. Annual Purge Release factor (% Refrigerant charge) d. Annual Service Release (% Refrigerant charge) e. Probability factor for catastrophic failure (% refrigerant charge loss/year) f. Global Warming Potential of refrigerant g. Cooling capacity (kW)	RIBA Stage 4	MEP Engineer
		Impact of Refrigerant	**3 credits:** Where the building does not require the use of refrigerants within its installed plant/systems. **2 credits:** Where the systems using refrigerants have Direct Effect Life Cycle CO2 equivalent emissions (DELC CO2e) of ≤ 100 kgCO2e/kW cooling/heating capacity. To calculate the DELC CO2e please refer to the Relevant definitions in the Additional information section and the Methodology section. OR Where air-conditioning or refrigeration systems are installed the refrigerants used have a Global Warming Potential (GWP) ≤ 10. **1 credit:** Where the systems using refrigerants have Direct Effect Life Cycle CO2 equivalent emissions (DELC CO2e) of ≤ 1000 kgCO2e/kW cooling/heating capacity.		✓	✓	✓	2	1.70%			1	1	It is anticipated that this requirement will be met. **1 credit targeted. 1 credit considered potential.**		RIBA Stage 4	MEP Engineer
		Leak detection	Where systems using refrigerants have a permanent automated refrigerant leak detection system installed; OR where an inbuilt automated diagnostic procedure for detecting leakage is installed. In all instances a robust and tested refrigerant leak detection system must be installed and must be capable of continuously monitoring for leaks. The system must be capable of automatically isolating and containing the remaining refrigerant(s) charge in response to a leak detection incident		✓	✓	✓	1	0.85%			1		It is anticipated that this requirement will be met. **1 credit targeted.**	1) Specification confirming inclusion of refrigerant leak detection and containment system as per the BREEAM Criteria column.	RIBA Stage 4	MEP Engineer
Pol 02	**NO_x emissions**	NO_x emissions	Credits achieved are based on the following scores where the dry NOx emissions (at 0% excess O2): - One credits- ≤100 mg/kWh (space heating) - Two credits - ≤70 mg/kWh (space heating) - Three credits - ≤40 mg/kWh (space heating)		✓	✓		3	2.55%			2		All heating and hot water provided by electric equipment. As per discussion with BRE, NC 2018 requirements can be adopted (TBC by assessment criteria issued by BRE). **2 credits targeted.**	1) Specification confirming heating, cooling and hot water systems. 2) Manufacturer's datasheet confirming: a. dry NOx emission rate (at 0% excess O2) b. heat and electrical outputs of all systems 3) Calculations from the project team confirming average NOx emission rate.	RIBA Stage 4	MEP Engineer

Pass	≥ 30%
Unclassified	< 30%

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Pol 03	Flood risk management and reducing surface water run-off	Flood risk management	**Low flood risk** Where flood maps from the appropriate statutory body confirm the refurbishment or fit-out is situated in a flood zone that is defined as having a low annual probability of flooding; OR The project meets the requirements for avoidance of flooding in accordance with Checklist 1, where the refurbishment or fit-out zone is of a floor level that is 0.3m higher than the obtained/estimated flood level and safe access/escape routes are available/present **Medium/high flood risk** Where flood maps confirm the site has a medium/high flood risk a site specific FRA his undertaken AND 5.The refurbishment zone achieves avoidance from flooding through either: a. The refurbishment zone is located entirely on the first floor or above and a flood emergency plan has been developed in accordance with 'Would your business stay afloat? A Guide to preparing your business for flooding', Environment Agency, 2011 b. As a result of the building's floor level or measures to keep water away, the building is defined as achieving avoidance from flooding by following Checklist A-1. OR 6. Where avoidance is not possible, two credits are achieved where a full flood resilience/resistance strategy is implemented for the building's scope of works in accordance with recommendations made by a Suitably Qualified Building Professional.	✓	✓	✓	✓	2	1.70%			2		Specific FRA will be commissioned, **2 credits targeted.**	1) Drainage consultant's report/ calculations/ specification confirming: a.Type and storage volume (l) of the drainage measures b. Total area of hard surfaces (m2) c. Peak/Volume flow rates (l/s) pre and post development for the return period events and discharge rates d. Additional allowance for climate change designed in to the system e. Impact on the building of flooding from local drainage system failure f. specification of SuDS and pollution measures for high risk areas as applicable.	RIBA Stage 3	Client Architect Drainage Consultant
		Surface water run-off	One credit 7. There is no increase in the impermeable surfaces as a result of the refurbishment works; OR 8. If there is an increase in the impermeable surface as a result of the refurbishment works then the following must be met: a) Hard standing areas - where there is an extension or increase in the hardstanding areas and hence an increase in the total impermeable area as a result of the refurbishment works, the hardstanding area must be permeable or be provided with on-site SuDS to allow full infiltration of the additional volume, to achieve the same end result. The permeable hardstanding must include all pavements and public rights of way, car parks, driveways and non-adoptable roads, but exclude footpaths that cross soft landscaped areas which will drain onto a naturally permeable surface. b) Building extension - where there is an increase in building footprint, extending onto any previously permeable surfaces, the additional run-off caused by the area of the new extension must be managed on-site using an appropriate SuDS technique for rainfall depths up to 5mm. Two credits - reducing run-off 9. An Appropriate Consultant has been used to design an appropriate drainage strategy for the site. 10. Either of the following criteria are met: a) There is a decrease in the impermeable area by 50% or more, from the pre-existing impermeable hard surfaces; OR b) Where run-off as a result of the refurbishment is managed on-site using source control achieving the following requirements: i. The peak rate of run-off as a result of the refurbishment for the 1 in 100 year event has been reduced by 50% from the existing site. ii. The total volume of run-off discharged into the watercourses and sewers as a result of the refurbishment, for a 1 in 100 year event of 6 hour duration has been reduced by 50%. iii. An allowance for climate change must be included for all of the above calculations; this should be made in accordance with current best practice planning guidance.	✓				2	1.70%				2	Subject to Drainage Consultant advice. **2 credits considered as additional potential.**	1) Drainage consultant's report/calculations confirming: a. Type and storage volume (l) of the drainage measures b. Total area of hard surfaces (m2) c. Peak/Volume flow rates (l/s) pre and post development for the return period events d. Additional allowance for climate change designed in to the system e. Impact on the building of flooding from local drainage system failure 2) Copy of a completed GN15 issued to design team at Pre-Assessment stage.	RIBA Stage 3	Drainage Consultant
		Minimising water course pollution	11. There is no discharge from the developed site for rainfall up to 5mm. 12. Where suitable pollution prevention measures are put in place (or already exist) for the different sources of pollution present on the assessed site 13. A comprehensive and up to date drainage plan of the site will be made available for the building/site occupiers. 14. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS must be in place.	✓				1	0.85%				1	Subject to Drainage Consultant advice. **1 credit considered as additional potential.**	1) Design drawings or relevant section or clauses of the building specification or contract indicating: a. High and low risk areas of the site b. Specification of SuDS, source control systems, oil or petrol separators and shut-off valves as appropriate.	RIBA Stage 3	Drainage Consultant

Pass	≥ 30%
Unclassified	< 30%

											67.06%	81.00%					
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Pol 04	Reduction of night time light pollution		One credit where evidence provided demonstrates that the external lighting design is in compliance with the guidance in the ILP Guidance notes for the reduction of obtrusive light, 2011. All external lighting (except safety and security) should be automatically switched off between 23:00 and 7:00 hours. Safety and security lighting levels should be lowered between these hours to meet the criteria in table 2 of the ILP notes. illuminated advertisements, where specified, must be designed in compliance with ILE Technical Report 5 – The Brightness of Illuminated Advertisements		✓	✓		1	0.85%			1		To adopt the requirements as part of the lighting strategies. **1 credit targeted.**	1) Specification confirming compliance with the ILP Guidance notes for the reduction of obtrusive light, 2011 and inclusion of controls to automatically switch off lighting between 23:00 and 07:00 hours.	RIBA Stage 4	MEP Engineer
Pol 05	Reduction of noise pollution		Where there are no noise-sensitive areas or buildings within 800m radius of the assessed site. OR Where the building does have noise-sensitive areas or buildings within 800m radius of the site: - A noise impact assessment in compliance with BS 7445 is carried out - The noise impact assessment must be carried out by a suitably qualified acoustic consultant - The noise level is a difference no greater than +5dB during the day (07:00 to 23:00) and +3dB at night (23:00 to 07:00) compared to the background noise level. - Where the noise is greater than the levels described measures have been installed to attenuate the noise at its source to a level where it will comply.	✓	✓	✓	✓	1	0.85%			1		City of London planning requirements more onerous than BREEAM. Therefore noise limit set out will comply with BREEAM requirements. Action in stage 2: Acoustic's report and CV to be provided. **1 credit targeted.**	1) Acoustician's report confirming: a. Distance to noise sensitive buildings from the proposed sources of noise in the new development. b. Baseline noise investigations (compliant with BS 7445:1991) and plant noise values that the background noise levels will not be exceeded and the proximity of any noise sensitive receptors in the vicinity. c. Recommendations for noise attenuation measures. 2) Written confirmation that any recommendations made by the Acoustician will be implemented into the design to ensure the final building is compliant with the relevant standards	RIBA Stage 2	Acoustician

														67.06%	81.00%					
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				Part 1	Part 2	Part 3	Part 4			Very Good	Excellent	Targeted	Additional				
Innovation																				
Man 03	Responsible construction		See Man 03 above					1	1.00%							RIBA Stage 4	Contractor
Man 05	Aftercare support		Operational infrastructure and resources will be put in place to co-ordinate the following activities at quarterly intervals for the first three years of building occupation: a.Collection of occupant satisfaction, energy consumption and water consumption data. b.Analysis of the data to check the building is performing as expected and make any necessary adjustments to systems controls or to inform building user behaviours. c.Setting targets for reducing water and energy consumption and monitor progress towards these. d.Feedback any 'lessons learned' to the design team and developer for use in future projects. e.Provision of the actual annual energy, water consumption and occupant satisfaction data to BRE.					1	1.00%							RIBA Stage 4	Contractor
Hea 01	Daylighting		- Occupied areas have an average daylight factor of 3% in 80% of the space - A minimum point daylight factor of 1.2% OR 2.1% for spaces with glazed roofs, such as atria					1	1.00%							None	
Hea 02	VOC		**One credit** - All seven remaining categories meet the testing requirements and emission levels criteria - For products b) – f) listed in the table, the formaldehyde emission levels are measured and found to be less than or equal to 0.06mg/m3 air in accordance with the approved testing standards **Two credits** - All seven remaining categories meet the testing requirements and emission levels criteria - For products B to F listed in the table, the formaldehyde emission levels are measured and found to be less than or equal to 0.01mg/m3 air, in accordance with the approved testing standards					2	2.00%							None	
Wat 01	Water consumption		As per Wat 1, one exemplary credit can be achieved where there is a 65% reduction in water consumption over the notional building.					1	1.00%							None	
Mat 01	Environmental impact of materials		Achieve at least 85% of points within the Option 2 proforma					2	2.00%							None	
Mat 03	Responsible sourcing of materials		Where, in addition to the standard BREEAM requirements, 70% of the available responsible sourcing points have been achieved.					1	1.00%							None	
Was 01	Construction waste management		- Non-hazardous construction waste is no greater than 1.4m3 or 0.4 tonnes per 100m2 - The percentage of non-hazardous construction and demolition waste diverted from landfill meets is at least 95% by volume or 97 by tonnage - Waste materials are sorted into separate key waste groups either on-site or off-site through a licensed contractor for recovery. - 75% of difficult to manage wastes have been reused on or off-site rather than recycled					2	2.00%							None	
Was 02	Recycled aggregates		Where 35% (by weight or volume) of the total high-grade aggregates specified in the development are recycled and/or secondary. The percentage of high-grade aggregate that is recycled and/or secondary, must meet the following levels: - Structural frame - 30% - Bitumen or hydraulically bound base, binder and surface courses for paved areas and roads - 75% - Concrete road surfaces - 45% - Pipe bedding - 100% - Building foundations - 35% - Granular fill and capping - 100%					1	1.00%							None	
Was 05	Adaptation to climate change		Achievement of the Structural and fabric resilience criterion in this issue and the following criteria points or credits: Hea 04 Thermal comfort Criterion 6 in the second credit of the Hea 04 issue has been achieved. Ene 01 Reduction of energy use and carbon emissions At least eight credits in this issue have been achieved. Ene 04 Low carbon design The Passive design analysis credit in this issue has been achieved. Wat 01 Water consumption A minimum of three credits in this issue have been achieved. Mat 05 Designing for durability and resilience Criterion 2 relating to material degradation in this issue has been achieved. Pol 03 Surface water run-off Flood risk – a minimum of one credit has been achieved.					1	1.00%							None	
Pol 03	Flood risk and reducing surface water run-off		- The peak rate of run-off as a result of the refurbishment for the 1 in 1 year event is reduced to zero. - The peak rate of run-off as a result of the refurbishment for the 1 in 100 year event is reduced to zero. - There is no volume of run-off discharged into the watercourses and sewers as a result of the refurbishment, for a 1 in 100 year event of 6 hour duration. (An allowance for climate change must be included for all of the above calculations)					1	1.00%							None	

Unclassified	< 30%

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